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ORIGINAL ARTICLES.

THE TREATMENT OF CHRONIC ALCOHOLISM BY HYPNOTIC SUGGESTION.

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THE treatment of chronic alcoholism has of late become a matter of especial interest to the medical profession of this country in view of the popularity of various secret "cures" for that condition. No unprejudiced observer can deny that these methods of treatment have cured some drunkards of their addiction to liquor, for periods of some years at least. Although such so-called "specific" treatments have been repeatedly denounced by the medical press, it is a fact that many physicians send patients to the institutions in which such treatment is given, or have adopted or attempted to imitate their medicines. It appears to be generally admitted that strychnin and atropin are the active drugs in these secret compounds, and we may well inquire whether the success of such treatment is or is not due to these alkaloids. During the past three years I have experimented with hypnotic suggestion in the treatment of chronic alcoholism and have obtained results practically identical with those reached by these methods, but in the great majority of cases in less time and without giving a drop of medicine of any kind. It is, therefore, a fair inference that in the methods of "specific" cure the psychic effect produced by the frequently-repeated hypodermatic injections, by the symptoms arising from physiologic doses of powerful alkaloids, and by the expectant attention of the hopeful patient, is of more importance than the character of the drugs employed. It is true that the hypodermatic administration of the nitrate of strychnin was recommended by Russian physicians in the treatment of alcoholism before Keeley became known to fame, yet it is to be noted that Dr. Korona, of Tiflis, who has had a very large experience with this method, raises the question whether its effect may not be largely due to suggestion.[1] This question can only be answered by the experiment, which has never been tried so far as I know, of treating an alcoholic subject with hypodermatic injections of strychnin without allowing him to suspect that the object is the cure of his appetite for liquor. But even if strychnin alone or in combination be granted to exert a specific influence upon the liquor-habit, as the tendency of alcohol is to produce fatty degeneration, the use of so powerful a cardiac stimulant as strychnin is not without danger of causing the sudden death of the patient from over-excitation of a fatty heart. This fact is recognized in the Keeley institutes. A careful examination is made of the heart of all applicants, and those are refused treatment in whom there is any reason to suspect the existence of this degeneration, thus excluding a class which most urgently needs deliverance from the liquor-habit.

The hypnotic treatment of alcoholism appears to be little known in this country. I have been obliged to work without much assistance from the literature of the subject, which is for the most part not easily accessible, and the views which I shall present are almost wholly the result of my own experience. The following is a condensed report of all the cases of chronic alcoholism which I have treated by hypnotic suggestion.

CASE I was that of an American blacksmith, thirty-four years of age. On January 26, 1891, this patient, alarmed by the sudden death of one of his companions from alcoholism, came to me for treatment of the liquor-habit, saying that he knew that he would die within a month if no help was given him. He stated that he had eaten absolutely nothing for two weeks and very little for six weeks, and had consumed an enormous amount of whiskey. For several years his minimum allowance for twenty-four hours had been two bottles of cheap whiskey, one of which he drank during the day while at work, the other during the night. He could not sleep without a preliminary drink of whiskey, and waking in an hour or less was obliged to drink again to procure more sleep, and so spent every night alternately drinking and dozing. He had tried to stop drinking, but an abstinence for a period of nine hours had produced such alarming nervous symptoms that, fearing delirium tremens, he had felt himself forced to continue the habit. Having previously treated him medicinally with very little benefit, it occurred to me that this would be an excellent case upon which to test the merits of hypnotism. I accordingly told him that I had read of a new treatment of which I had no personal knowledge and which I would like to try upon him. An unsuccessful attempt was made to hypnotize him on the following day. A second attempt, on January 28th, was successful, and appropriate suggestions were given. The treatment was continued on Feb-

[1] Wetterstrand: Der Hypnotismus, p. 62. Vienna, 1891.

ruary 3d, 4th, 5th, 6th, 7th, 8th, and 15th. The patient was allowed to drink during the first part of this period. He reported after the first two treatments that the liquor had a "brown" taste and that he found the same quantity much more intoxicating than formerly, so that he was able to reduce the amount consumed without discomfort. After the fifth treatment he felt a sudden repugnance to liquor and returned to announce that he was completely cured. It was with difficulty that he was persuaded to return for further treatment. His health rapidly improved, his appetite for food returned and became for a time enormous, his digestion was good, and his sleep sound and refreshing. He abstained from liquor entirely until November, 1891, when he began to drink again on account of the intolerable itching and burning due to an acute attack of some skin-disease, but perceiving that he was rapidly relapsing into his former excess he consulted a local physician (my station having been changed in July, 1891), who gave him a brief course of treatment after one of the methods of "specific" cure. This removed the returning cravings, and on September 1, 1893, he reported that he was still entirely abstinent.

CASE II.—A Swedish laborer, a very hard drinker, was intoxicated when first treated, on February 17, 1891. The treatment was repeated on the following day, the patient being much under the influence of liquor. On February 19th he presented himself grossly intoxicated, at an hour other than that which had been appointed, and was told to return at the proper time. Taking offence at this he did not come back for further treatment. I met him a month later so improved in appearance as to be hardly recognizable, when he volunteered the statement that as the result of the treatment he could no longer drink whiskey, but that he was still drinking beer. He was seen two months afterward lying in the gutter dead drunk, having probably succeeded in overcoming his distaste for whiskey.

This incomplete case is of interest, because it shows that well-marked temporary results can be obtained from even two hypnotizations given under apparently unfavorable conditions, and that the effect of the treatment does not always manifest itself at once. The patient could drink whiskey on the day after the last treatment, but at a later time, unfortunately I do not know exactly when, it became for a considerable period repugnant to him.

CASE III was an English shepherd, aged thirty-seven, formerly a sailor. He drinks heavily when able to obtain liquor, and was somewhat intoxicated when first treated, on February 22, 1891. After three treatments the patient obtained employment at a distance, and was lost sight of. I supposed that the treatment had not been long enough continued to secure more than temporary results, but happening to meet him on September 1, 1893, he most positively assured me that he had not touched liquor since my treatment of him two years and a half before. The fact of his sobriety was attested by his friends.

CASE IV.—A Scotchman, aged forty-three, a sheep-owner, a man of intelligence and education, drank whenever in town, at first convivially, afterward by himself. He has acquired the habit of sipping liquor during the night in order to sleep. He was hypnotized on the third attempt, on March 13, 1891, and received in all nine treatments on consecutive days. He did not drink after beginning the treatment, and all desire for liquor speedily left him. At the conclusion of the treatment he was unable to taste whiskey without becoming nauseated. He abstained from liquor for about eight months; then having lost his disgust for it he began to drink again, moderately at first, but soon as hard as ever. He then took a course of treatment at a "Keeley" institute in Nebraska, and since then has abstained entirely. The following is an extract from a letter received from him, dated February 31, 1893: "In regard to the two treatments, hypnotic and 'Keeley,' I cannot see any difference between them. They act in the same way—that is, on the mind. Your treatment was every bit as effectual as the Keeley, but I made a great mistake with yours. I expected too much from it. I used to take whiskey when I really did not want it, thinking that my mind was so strong that I could call a halt whenever I pleased, and the result was that the old desire came back, and I believe worse than ever. Of the two treatments I would say that they are both equally good, and will cure anyone that wants to be cured, but neither of them can put a new set of brains into a man. It is for the subject to stay cured; when he is [cured], and not experiment as I did with the hypnotic."

CASE V.—An American, aged fifty, a bartender, drank to excess periodically. When he consulted me he had been drinking steadily for several weeks, and was tremulous and nervous, and he had been with difficulty persuaded by his employer to submit to the treatment. On March 26, 1891, he was hypnotized with great ease, but only to a slight degree, as he continued to talk volubly about his sensations. The treatment was continued March 28th, 29th, and April 5th. The effect of the treatment in controlling his appetite for liquor was not marked. He continued to drink beer, but did not become intoxicated. On April 6th, contrary to my advice, he went with others on a hunting-trip, from which he was brought back in three days very ill. It was stated that he had fallen from the wagon and injured himself. The only injury apparent was a large ecchymosis about the left eye. There were rumors of a fight having occurred, and there was little doubt that the hunting-trip had been little else than a debauch with liquor. The patient was delirious, and could hardly be kept in bed by constant watching. There was constant tremor, which affected the tongue and muscles of the face, so that speech was apparently impossible. The temperature was slightly elevated. He died on the third day after his return. A careful examination of the brain *postmortem* discovered no gross lesions, except dense and old adhesions of the dura over the vertex, enclosing a small cyst which contained colorless fluid. It is my opinion that the cause of death was delirium tremens, that the patient had indulged in whiskey with his accustomed freedom, and that the

effect of the hypnotic treatment had been to cause an intolerance of alcohol, which in his broken health led to a fatal result. (Compare in this connection Case XIV.)

CASE VI.—A German, aged thirty-two, a cavalry non-commissioned officer, has consumed beer in large amounts for years, and recently had been drinking whiskey also to such an extent as to unfit him for the discharge of his duties. Brought for treatment by his captain, December 5, 1891, he himself had no desire to give up drinking, and consented to the treatment with the reservation, as he subsequently admitted, that he would continue to drink if he could. He was readily hypnotized, and received further treatment on December 6th, 7th, 8th, 10th, 17th, 25th, January 10th, 17th, 25th, 31st, and February 17th, 1892. He professed to have lost all desire for beer and liquor after the fourth treatment. It was discovered, however, that he still drank beer when he thought he could do so undetected. He was given five treatments during the month of March, and two in the early part of April, after which he again claimed to be cured. On April 17th he left the post with his troop and made a march of 300 miles through a country where the drinking-water was scarce and bad. On this march he was almost constantly exposed to snow and rain, and had much wearing responsibility; but although opportunities for obtaining liquor were not lacking, he abstained entirely and remained sober after his return until May 18th, when he began to drink again, owing, he said, to the worry and excitement arising from a fire which consumed his company-barrack. After another slight relapse on Decoration Day he remained apparently sober, although he drank beer occasionally, until December 4th, when he became somewhat intoxicated and was admitted to the post hospital as a preventive measure. He then claimed to have a sincere desire to reform, and ascribed his relapses to his inability to resist the solicitations of his friends, yielding from a wish to be sociable, rather than because he had any actual craving for intoxicants. He received occasionally hypnotic treatments during the winter and the early spring, and is thought to have abstained entirely during this period from beer as well as whiskey. In the latter part of April, 1893, he left with his troop for duty at another post, upon his arrival at which he withstood so well his many old comrades who urged him to drink in honor of the meeting, that his captain thought him really cured. But soon afterward, without any known cause, he began to drink heavily again. His term of service expiring in the summer, he was discharged and his present condition is not known.

CASE VII.—An Irishman, aged forty-six years, was a soldier who had served nearly thirty years in the army. He was "a man who," to quote his captain's words, "was never sober except in the guardhouse, or when it was impossible to get rum enough to make him drunk. And for rum he would trade the shirt off his back." He was treated every day for six days, beginning on December 21, 1891, and then at gradually increasing intervals, receiving in all fourteen treatments. The desire for liquor left him after a few treatments, and he remained sober under many temptations for about six months. During this period he made the long march referred to under Case VI. On this march he carried whiskey for some of his comrades who were afraid to trust themselves with it, but felt no desire whatever for it. In May, 1892, his troop left the post for duty in another department, the transfer involving a march of nearly three hundred miles. On this march he became intoxicated once, and also drank a little after reaching the end of his journey. He then remained sober for several months, but finally relapsed completely into his old habits.

CASE VIII.—An Englishman, aged forty-seven years, was a soldier in the same troop as the preceding case. He had served twenty-nine years in the army, and was a most incorrigible drunkard—on the verge of discharge on account of his addiction to liquor. He received eleven treatments, beginning on January 28, 1892, and abstained entirely from liquor for about four months, but became intoxicated while on the march in May, 1892, and continued to drink at intervals for several months, finally becoming as bad as ever.

CASE IX was an American soldier, aged forty-eight years. The patient had suffered many years from insomnia, for which he had consulted many physicians, and had had much ineffectual treatment. He had used beer and whiskey to procure sleep until he had become much addicted to them. Treatment was begun on December 27, 1891, at which time the patient was recovering from the effects of prolonged intoxication, and had been treated for two days with hypodermatic injections of strychnin. He received twenty-eight treatments during the following three months, the relatively prolonged course of treatment being directed against the sleeplessness rather than the desire for stimulants, which was quickly removed. The duration of his sleep increased from an average of two or three hours to six or seven hours, and the sleep became quiet and refreshing. He abstained entirely from alcoholic beverages of every kind for about six months from the beginning of the hypnotic treatment. Whiskey he had a strong dislike for at that time, but beer was not disagreeable to him, and he began in the latter part of 1892 to drink an occasional glass for sociability's sake, but one glass did not excite a desire for more, and he did not become at all intoxicated until the spring of 1893, when, being obliged to spend six weeks away from home without any occupation, he drank beer in larger quantities, and the old appetite for whiskey returning temporarily, he indulged freely in it and was drunk for nearly a week. Returning to his home he received two hypnotic treatments for a recurrence of the insomnia, which is partly a cause and partly an effect of his habits with regard to alcoholic drink, and since that time he has slept comparatively well and has remained sober, although being unwilling to give up the social enjoyment which he finds in a glass of beer with his friends; he will probably relapse again in time.

CASE X was an American, aged thirty-six years,

a laborer, and a notorious drunkard. He had been drinking steadily for about twelve years. He estimates his daily consumption of whiskey to have been more than a quart, but adds that that limit is set only by his inability to pay for more. February 15, 1892, the patient presented himself considerably intoxicated, and was hypnotized with ease. He received treatment every day, and continued to drink moderately until February 21st, when the desire for liquor left him entirely, and he was so confident that he was permanently cured that he would only return for one more treatment, on the 24th. He secured employment in a saloon and gambling-room where whiskey was constantly before him, but did not drink at all until the end of August, 1892. At this time he began to gamble, to which his employer objected, and he lost his situation. Continuing to gamble he lost the savings which he had accumulated during the preceding months of sobriety, and began to drink again, his friends think on account of his losses. He soon appeared to be in as bad a condition as before the hypnotic treatment. His wife, however, states that he did not continue to drink until he was as deeply intoxicated as formerly; also that he was apparently more affected by the same amount of liquor. He left this vicinity soon after his relapse, and has but recently returned. At present he drinks at times to intoxication, but thinks that liquor has not the hold upon him that it had before he received the hypnotic treatment.

CASE XI.—An American soldier, aged twenty-nine years, had been addicted to the use of liquor for twelve years. He had been in the habit of drinking greater quantities of whiskey, he says, than any man of his age whom he knows—sometimes as much as two bottles and a half a day. He has had two attacks of delirium tremens, in one of which he ran until completely exhausted, under the delusion that his company officers were trying to kill him. He has repeatedly tried to conquer the habit, and has abstained from liquor for periods of varying length, the longest of which was six months, about ten years ago. At such times of abstinence almost irresistible cravings for stimulants come upon him suddenly—sometimes without apparent cause, but always if he sees others drinking. He has taken no liquor since January 18, 1892. Beginning on February 24, 1892, the patient received six treatments on successive days; also treatments on March 8th, 15th, 24th, and April 24th. The treatment was successful in removing very quickly all desire for liquor. The craving returned for half an hour on March 20th, but he resisted it, and since that time has abstained without any effort. He is confident from past experience that it would have been impossible for him to have remained sober for so long a time unaided.

CASE XII.—An American, aged forty-four years, a cattle-owner, used liquor and tobacco to excess. He has suffered with insomnia and has a "tobacco heart." He desires to be cured of the appetite for both liquor and tobacco. The patient received nine daily treatments, beginning on April 2, 1892. He continued to use liquor until on the 7th a drink of whiskey caused an attack of nausea and vomiting which lasted two hours. He could, however, still smoke until the evening of the 8th, when a cigar produced an attack of nausea of briefer duration. Since that time he has abstained from the use of both liquor and tobacco, and has felt no desire for either. His sleep has become quiet and refreshing, and of sufficient length, and his heart gives him no further trouble. He was last heard from on July 7, 1893, at which time he wrote that he was still abstinent, that whiskey had no temptations for him, and that even the smell of it was disgusting, and he regarded himself as permanently cured of the liquor and tobacco habits.

CASE XIII.—An American soldier, aged twenty-five years, had been drinking for three years. He received eight hypnotic treatments, the first on April 8, 1892. He felt no desire for liquor, and did not drink at all until detailed for duty at the department rifle range in the summer of 1892, where, the water being bad, he drank beer occasionally, but did not become intoxicated. On his return he continued to drink beer at intervals, but claimed to have no craving for it. He, however, yielded gradually to the attractions of conviviality, and has of late been intoxicated several times. In this case it appears that the indulgence in alcoholic drinks is due rather to a fondness for excitement and conviviality than to any actual physical cravings.

CASE XIV.—An American soldier, aged forty-seven, had been drinking for fifteen years. He drinks beer steadily and has occasional "sprees" with whiskey, which last about two weeks. On June 6, 1892, the patient was hypnotized while somewhat intoxicated. The treatment was continued on the three following days, after which he failed to present himself. On June 10th the patient had continued to drink, but found that whiskey affected him much more strongly than formerly. He was admitted to the hospital on the verge of delirium tremens, very nervous and seeing visions, but recognizing them to be hallucinations. He was kept in bed for ten days and the hypnotic treatment suspended. On June 20th the patient said that he recognized that he could no longer drink whiskey and was resolved to abstain in the future. He was hypnotized and the same treatment continued on the two following days. He was sent to another post in January, 1893, where he was seen in the latter part of August. He stated that he had drunk whiskey once, and found it so disagreeable that he had no desire to continue to drink, and that he believed himself to be permanently cured of his fondness for it.

CASE XV.—A non-commissioned officer, an American, aged thirty-one, had been drinking for twelve years, chiefly beer, but occasionally as much as a quart of whiskey a day. Ten years ago he abstained from strong drink for five months. Since then he has repeatedly tried to reform, but has always quickly broken his good resolutions. After three weeks of hard drinking he was admitted to the hospital November 21, 1892, suffering with extreme nervousness and hallucinations of sight and hearing. He was kept in bed and treated medicinally until the 27th, when

hypnotic treatment was commenced. He received eight daily treatments and three others at lengthening intervals. The marked improvement in his appearance after this course of treatment and the new zeal with which he performed his duties were matters of general remark. The craving for liquor had apparently left him, and he remained sober until February 23, 1893, when, being in Omaha, he met friends who urged him to drink with them. He refused repeatedly, but finally began to consider that, the day being cold, a glass of liquor would warm him up, and, dallying thus with the temptation, a sudden desire came upon him. He drank until he became deeply intoxicated, and continued to drink heavily for two weeks. Returning to the post, he received ten additional treatments, but continued to drink beer in spite of many vows of abstinence. It appeared that, knowing that he had once tried to abstain and had failed, his comrades joked him about it, and he had not the moral courage to refuse. The beer affected him much more speedily than before the hypnotic treatment. Whiskey he was unable to drink. I finally gave him up as incorrigible. As for his present condition, he still drinks, but not to great excess. He is no longer a "good beer-drinker," although he once prided himself upon being one of the best. Whiskey is still unpleasant to him, and he rarely touches it.

CASE XVI.—An English non-commissioned officer, aged thirty-seven, was induced by his company commander to come for treatment on October 23, 1892. He drank to excess at irregular intervals. The patient was given the hypnotic treatment, with the usual result of loss of tolerance of alcohol, but he continued to drink to excess at intervals of a few months. Being questioned after a period of intoxication, he frankly said that he did not intend to give up drinking, that the only pleasure which he had was in associating with his friends, who were drinking men, and that he could not enjoy their society without drinking with them.

CASE XVII.—An American ranchman, aged fifty, had been for many years in the habit of taking liquor before going to bed in order to procure sleep. The appetite thus acquired has much increased during the past eight years. He has been drinking excessively for several months and is nervous and tremulous when he appears for treatment. He was hypnotized with difficulty on the fifth attempt on December 4, 1892, and received eleven treatments. The patient continued to drink whiskey during the first few days of treatment. In the afternoon of the day upon which the third treatment had been given (December 6th) the desire for liquor left him suddenly and completely. He took a small quantity of whiskey on the following morning, but found it, as he said, "like medicine." Since that time he has abstained entirely and without effort from all intoxicating beverages, and his sleep and general health have been satisfactory.

CASE XVIII.—An American soldier, aged twenty-two, had been drinking for four years. He received eleven hypnotic treatments, beginning January 21, 1893. The patient stated that the desire for liquor which he had formerly experienced was completely removed by this course of treatment. He remained sober while at this post. On April 17, 1893, he left with his troop for duty at another station, since which time his history is not known.

CASE XIX.—An American soldier, aged twenty-nine, had been drinking for twelve years and for the last three years very heavily, sometimes more than two quarts of whiskey a day. He has often tried to give up drinking, but has never been able to abstain for a longer period than one month. On March 25, 1893, the patient came for treatment, weak and nervous, after prolonged intoxication. He was given six treatments on successive days and five others at longer intervals, with the usual result of speedy loss of appetite for liquor. On September 20th the patient came for additional treatment. He had taken no alcoholic drinks since March 23d, but since last pay-day (September 7th), seeing his friends drinking, he has had a return of his former cravings for liquor, but has resisted, awaiting my return to the post. He was given three hypnotic treatments. The cravings for alcohol left him after the first treatment and have not since returned. He has been perfectly sober up to the present time.

CASE XX.—A German soldier, aged thirty-seven, began to drink five years ago on account of bereavements. He becomes intoxicated every pay-day, and thinks that the habit is growing upon him; but he is not a drunkard. He received nine hypnotic treatments, beginning on April 1, 1893. The patient reported after the first treatment that his desire for liquor was entirely gone, and that he could not bear the thought of drinking it. He remained perfectly sober so long as he was under my observation. In July he fell beneath an electric car in Omaha and was instantly killed. At the inquest the conductor of the car testified that the patient had been drinking, but was not drunk. His friends in Omaha are, however, positive that he did not drink at all.

CASE XXI.—An American soldier, aged twenty-seven, had been drinking for about five years. He received eight hypnotic treatments, beginning July 15, 1893. He abstained from liquor for about three months, during the greater part of which time he was absent from the post on detached service. On his return he began to drink again—it is thought for convivial reasons—and was soon afterward discharged.

CASE XXII is an American blacksmith, who drinks to excess periodically. He received three hypnotic treatments in July, 1893, after which he went away on business and was unable to continue the treatment. He drank beer occasionally for several weeks after this, but says that he found that "his mind was off it," *i. e.*, that he did not crave it as he formerly did. Since that time he has abstained entirely from all intoxicating drinks and regards himself as permanently cured.

CASE XXIII.—An American, aged thirty-five, a soldier, has been drinking for ten years and has "sprees" lasting a week or more every few months. He was admitted to the hospital on November 25, 1893, suffering from the effects of drink. He was hypnotized on December 1st and received seven treat-

ments on consecutive days and two others subsequently. He has been abstinent since beginning treatment, and states that he feels no desire for liquor.

Excluding Case II, on account of inadequate treatment, Cases V and XVIII, because of the death of the patients, and Case XX, because the result is not known, there remains a series of nineteen cases which may be classified as follows:

1. Remained abstinent to the present time or when last heard from, 8.

2. Relapsed and abstinent after further treatment, hypnotic or "specific," 3.

3. Relapsed after passing out of reach, 2.

4. Relapsed and sought no further treatment, 3.

5. Relapsed and continued to drink, notwithstanding additional treatment, 3.

It may be fairly claimed that all of the patients were sufficiently influenced by the treatment to have become convinced that they could be cured by a continuance of it. It is, therefore, safe to assume for all of the patients in Class 4 what I know to be true of one (Case XIII), that conviviality has pleasures for them which they have found themselves unwilling to forego. The patients in Class 5 (Cases VI, XV, and XVI) were all non-commissioned officers who were induced by their company commanders to submit to the treatment, and, with the exception of Case XVI in the early part of his treatment, were not themselves desirous of help. These men are restricted by their rank to a narrow circle of intimate friends, who are for the most part drinking men, and total abstinence means for them the loss of almost all social pleasures. The conspicuously bad result in their cases shows well the futility of attempting such reform without the hearty coöperation of the subject. Suggestive treatment can only be expected to remove the physical cravings for alcohol. But, unfortunately, after such cravings have disappeared many motives for the indulgence still remain, such as the influence of associates, fondness for excitement and conviviality, and the desire to forget trouble or disgrace.

In estimating the results here reported it should be borne in mind that the frontier is a most unfavorable place for the cure of alcoholism, on account of the almost universal use of alcoholic beverages by the population and the lack of innocent amusements.

I have never failed to hypnotize a patient who sought treatment for alcoholism. Of the 23 cases here reported, 18 were hypnotized on the first attempt, 3 on the second, 1 on the third, and 1 on the fifth.

The method which I generally pursue is as follows: The patient, who is comfortably seated, is directed to fix his gaze and his attention upon some object before him. It is not necessary that this object should be bright, nor that it be placed so near as to strain the accommodation or cause marked convergence of the optic axes. In the meanwhile, standing behind the patient, I stroke his forehead gently and evenly with both hands. In the great majority of cases the patient's eyes close spontaneously in from two to ten minutes. In some cases the patient is on the point of being hypnotized, but the eyes remain open and must be closed before hypnosis is induced. These cases may be recognized by the fixity of the lids. The patient does not wink, or if winking is still performed, the act is incomplete—the upper lid does not fall so as to completely cover the eyeball. A more effectual, but more disagreeable way of hypnotizing, is to sit facing the patient and look him in the eye, the patient being charged to fix his eyes steadily upon one of the eyes of the physician, which are brought within a foot or two of his own. The psychic effect upon the patient is greater than if he were looking at an inanimate object, and his attention is consequently more easily concentrated. The physician relaxes his accommodation to escape the eye-strain which would otherwise be incurred. The eye-muscles of the patient are necessarily strained by this method, but the pain and in a great measure the conjunctival injection may be removed by suggestions during the succeeding hypnosis. Verbal suggestions may advantageously be employed in connection with either of these methods. If the patient is not hypnotized in fifteen minutes it is, as a rule, best not to persist in the attempt to influence him at that sitting. The second attempt will almost always be successful. Hypnosis being induced, suggestions are given to the effect that the patient will have no craving for liquor; that it will be disagreeable to the taste and unpleasant in its effects; that sleep, appetite, and digestion will be good; that nervousness will disappear, etc. It is well to suggest that there will be no nervousness, no pain in the eyes, and no headache upon awaking, also especially in the case of those who are hypnotized with difficulty that there will be no drowsiness.

The ease with which patients fall asleep increases generally at each repetition of the hypnosis within certain limits. That intoxication predisposes to hypnosis is shown, however, by the fact that a patient who has been hypnotized in two minutes while under the influence of liquor, often requires three or four times as many minutes to produce that result after he has become perfectly sober.

The treatments are repeated, if possible, every day for at least a week, after which they are given once a week for a few weeks, then once a month. The number of treatments necessary must be determined separately for each case, as there are great differences in the individual reaction to suggestion. I

have allowed the worst drunkards to continue to drink during the early part of their treatment, with the restriction that they take no more liquor than is necessary to prevent nervousness and sleeplessness. This concession saves the patient some suffering, and the effect upon his imagination is perhaps greater if he is convinced by actual trial that liquor is becoming more and more unpleasant in its taste and its effects. From three to six treatments generally suffice to remove the craving for alcoholic stimulants in those who abstain. In those who continue to drink, the effect of the treatment always manifests itself in a rapid loss of the acquired tolerance for liquor, which becomes more intoxicating and at the same time more disagreeable, until a point is reached, generally after from five to seven treatments, when it appears to the patient that a sudden change takes place in his appetite. He can often state the exact hour when "the whiskey turned on him," as he is apt to express it. This change he considers so profound and permanent that there is often difficulty in inducing him to return for what appears to him unnecessary additional treatment.

It is an interesting fact that, while it is easy to render whiskey repugnant to the senses of the patient, it appears to be impossible to accomplish this in the case of beer by any number of suggestions. The loss of tolerance and the cessation of cravings for alcohol are reached, however, with as great certainty in the one class of drinkers as in the other.

It might be expected that patients would attempt to excuse themselves in case of relapse by alleging the return of irresistible cravings for liquor. This has occurred in none of my cases, except Case XV, under circumstances already detailed. The difficulty is almost always the temptations of conviviality, unwillingness to offend by refusing "treats," and the like. In the least successful cases the first taste of alcohol reawakens the former cravings. The majority resume their old habits more gradually, and the whiskey-drinker will sometimes drink beer for a considerable period without excess. But in all cases the continued indulgence in drink leads certainly and generally speedily to drunkenness. The relapsed drunkard finds that he has no longer the ability to "carry" liquor upon which he once prided himself. If he does not recognize and respect that fact he is in danger of the deepest intoxication.

The evil effects of alcohol upon the nervous system are marked in cases that have been treated by suggestion, and delirium tremens may result from comparatively slight excess. (See Cases V and XIV.) It is perhaps unnecessary to say that this loss of tolerance of alcohol is due simply to the character of the hypnotic suggestions which have been employed. Hypnotism may be used to produce the opposite effect.[1]

Suggestions the effects of which are not intended to persist should be avoided. It is not necessary to attempt to impress the imagination of the patient by varied suggestions the purpose of which simply is to show the power of the physician over him. Nor is it necessary for the treatment of the great majority of cases that the subject be in the so-called "suggestible stage" of hypnosis. Functions which are not directly under the control of the will, such as sleep, peristalsis, the appetites—natural and artificial, pain, the organic sensations, etc., may be influenced by suggestion in any stage of hypnosis from the slightest drowsiness to the deepest sleep. Even a considerable degree of intoxication is no barrier to the success of such suggestion, as I have repeatedly observed. (See especially Case II.)

Hypnotism is not necessarily exhausting to the patient, as has been claimed. On the contrary, if his nervous energy is not wasted by suggestions which produce fatigue or disgust, he feels refreshed upon awaking, as from ordinary sleep. The dangers of hypnotism, as far as they exist elsewhere than in the imagination of its opponents, are due almost always to an improper use of the method. Certainly as employed for the cure of alcoholism there are no dangers to be feared from it which are at all comparable with those arising from a continuance in habits of intemperance.

NOTE ON THE VALUE OF GUAIACOL APPLIED EXTERNALLY AS AN ANTIPYRETIC.

BY WILLIAM SYDNEY THAYER, M.D.,
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IN THE MEDICAL NEWS for January 27, 1894, Dr. Da Costa publishes some interesting clinical remarks on the use of guaiacol externally in reducing high temperatures in typhoid fever and other febrile diseases. Following the observations of Sciolla, Bard, Lannois and others, concerning the powerful antipyretic action of guaiacol applied in this manner, Dr. Da Costa states that he was induced to try its effect in the "systemic fevers." The guaiacol was applied with a camel's-hair brush, and then rubbed in for fifteen minutes with the hand, or covered immediately with an impermeable bandage. Thirty to sixty drops at a time were applied, thirty being about the average dose. A very marked effect on the temperature was noticed, a fall of several degrees occurring through two to three to four hours. The effect was so marked in cases where large quantities were used that Da Costa advises small doses in the beginning—not more than twenty minims, for in-

1. Liébeault: Thérapeutique Suggestive, p. 109. Paris, 1891.

stance, is advised as an initial dose in a temperature of 103°. During the fall in temperature no ill effects were noted on the pulse or the respiration. In one case, after the temperature had reached its lowest point, there were chills on three occasions, but in the other cases no particular reference was made to excessive sweating or to chills. Dr. Da Costa suggests the possible value of this method of treatment in cases of typhoid fever, in which, for one reason or another, baths are inadvisable.

On the appearance of Dr. Da Costa's note we proceeded to test the action of guaiacol in various cases in Professor Osler's wards at the Johns Hopkins Hospital, with results which are perhaps of sufficient interest to note. Guaiacol has been used in all in eight cases. The skin, generally of the abdomen, was washed carefully with soap and water, and dried. The guaiacol was then painted on with a camel's-hair brush and immediately covered with an impermeable dressing, or else rubbed in for fifteen minutes with the hand, the area being afterward covered with a similar dressing. The results, in brief, are as follows:

CASE I.—*Acute pneumonia; fall of 3½° in temperature, with profuse sweating in two hours and a half after the application of guaiacol, gtt. xx; chilliness between three and four hours after the application, with rapid return of fever.*

The patient was a male, eighteen years of age, at the fourth day of the disease (January 30, 1894). The temperature, at 8 A.M., was 102.8°; at 10 A.M., 103°; at 12 M., 104.2°; at 2 P.M., 103.6°; at 4 P.M., 102.8°; at 6 P.M, 99.8°; at 8 P.M., 103.4°; at 10 P.M., 103.6°; at 12 midnight, 104°. At 3.30 P.M., guaiacol, gtt. xx, was rubbed into the abdomen. Between 4 and 6 o'clock there was profuse sweating; between 6 and 8 o'clock chilliness. The pulse fell from 92 to 72 at 6 P.M.; at 8 P.M. it was 112. The crisis occurred on the following day.

CASE II.—*Typhoid fever; applications of guaiacol, gtt. xxx (1 c.c.), followed by falls in temperature varying from 3° to 4.5°; profuse sweating; chills or chilly sensations with the reaction.*

The patient was a woman, twenty-four years old. On the ninth day of a mild attack of typhoid fever, the temperature being at about 103°, twenty drops of guaiacol were applied to the outer side of the thigh, without previously washing the skin; no effect was noted. On the two ensuing days six applications of guaiacol, each of thirty drops (1 c.c), were made; the skin was washed and the guaiacol rubbed in with the hand. The falls of temperature varied between 3° and 4½°, the lowest point being reached in from two to four hours. In all instances, shortly after the lowest point was reached there were either chilly sensations or a distinct chill, with a rapid rise of temperature. An example of one of these falls after the application is as follows:

On February 1st, the temperature at 4 A.M. was 102°; at 6 A.M., 103.2°; at 8 A.M., 99.8°; at 10 A.M., 100.4°; at 11 A.M., 103.4°. Thirty drops of guaiacol were applied at 6 A.M.; profuse sweating followed between 6 and 8 o'clock; at 10 A.M. there was a chill. The patient was much relieved by the applications, and expressed a desire that they should be continued. The profuse sweating and the chills or chilliness following the applications had had, however, a visibly weakening effect, and the applications were discontinued. Tub-baths and cold sponge-baths were renewed, and there was an uninterrupted recovery.

CASE III.—*Pneumonia; application of guaiacol, ʒss (2 c.c.), followed by a fall of only, 0.8°; further application of gtt xx followed by a fall of 0.2°.*

A male, aged fifty-four, had acute pneumonia. On February 3d, the third day, the temperature at 8 P.M. was 102°; at 10 P.M., 101°; at 12, midnight, 100.2°; at 2 A.M., 101°; at 4 A.M., 101.2°; at 6 A.M., 102.4°. Guaiacol, ʒss, was applied at 10 P.M.

At 1.30 P.M., on the following day, guaiacol, gtt. xx, was applied, when the temperature was 103°, with no visible effect. Several counts of the leukocytes, before and after the application of the guaiacol, showed no particular change.

CASE IV.—*Typhoid fever; application of guaiacol, ʒj (3.75 c.c.), followed by a fall of temperature of about five degrees in three and a half hours; profuse sweating; chill, with rapid rise of temperature, in about four hours.*

The patient was a woman, nineteen years of age. On February 6th, in the third week of the disease, the temperature at 4 P.M. was 103.8°; at 6 P.M., 103.5°; at 8 P.M., 103 4°; at 9 P.M., 102.3°; at 10 P.M., 99.8°; at 12 midnight, 97.6°; at 2 A.M., 104.2°; at 4 A.M., 103.2°. Guaiacol, ʒj (3.75 c.c.), was applied at 8.30 P.M.; this was followed by profuse sweating between 9 and 12 o'clock, and a chill between 12 and 2. The dose in this case was (accidentally) larger than those used previously, and the effect was correspondingly more marked. The chill was quite severe.

CASE V.—*Pulmonary tuberculosis; five applications of guaiacol, ♏xxx; falls in temperature varying from 1.2° to 5.8°, occurring in from one to two and a half hours, with profuse sweating and chilliness.*

The patient was a man, thirty-three years of age, with bilateral pulmonary tuberculosis, with excavations. The fever was remittent, with evening exacerbations. The applications in this case were on each occasion thirty minims (2 c.c.) The sweating was so profuse, and the patient complained so bitterly of weakness and exhaustion after the applications, that they were omitted. An example of a moderate fall is the following:

On February 15th the temperature at 2 P.M. was 101°; at 2 45 P.M, 102.2°; at 3.45 P.M, 100.8°; at 4.45 P.M., 99.8°; at 6 P.M., 101°; at 8 P.M., 102°. Guaiacol, ♏xxx, was applied at 2.30 P.M.; there was profuse sweating during the fall in temperature, and chilliness later on.

CASE VI.—*Pulmonary tuberculosis; applications of guaiacol, gtt. xx and ʒss respectively ineffectual; fall of 4.8° in three hours after ʒj (3.75 c.c.); chill in about four hours, with rapid return of fever.*

The patient was a colored woman, thirty years of age, with evidences of infiltration at both apices.

She had had a steady, continuous fever, varying for three days from 100.6° to 103.4°.

On February 10th, guaiacol, gtt. xx, was applied at 5.30 P.M.; this was followed by a slight chill at 10 P.M.; there was no effect on the temperature.

On February 19th, guaiacol, ʒss (2 c.c.), was applied at 9.20 A.M., the temperature being about 101°, without any effect.

On February 19th, the temperature at 2 P.M. was 102.2°; at 3.50 P.M., 102.8°; at 4.50 P.M., 103°; at 5.50 P.M, 98.8°; at 6.50 P.M., 98°, at 8 P.M., 98°; at 9.30 P.M., 103.6°; at 10.30 P.M, 103°. Guaiacol, ʒj (3.75), was applied at 3.50, followed by sweating and a slight chill between 8 and 9.30 o'clock. This patient was a colored woman, with thick skin, hence, possibly, the inefficacy of smaller doses.

CASE VII.—*Acute rheumatism; application of* ♏xxx *(2 c.c.) of guaiacol followed by a fall of 3.4° in four hours, with profuse sweating.*

The patient was a woman, thirty-two years of age, with acute rheumatism. On February 19th the temperature at 2 P.M. was 101°; at 3.50 P.M., 101.4°; at 4.50 P.M., 100.4°; at 5.50 P.M., 99.6°; at 6.50 P.M., 99.2°; at 8 P.M., 98°; at 10 P.M., 101°. Guaiacol, ♏xxx, was applied at 3.50 o'clock; there was profuse sweating during the fall in temperature.

CASE VIII.—*Typhoid fever; fall of temperature of six degrees in three and a half hours after the application of 2 c.c. (ʒss) of guaiacol; profuse sweating; chill lasting an hour, with a return of the temperature in two hours to a point higher than before the application.*

The patient was a man, twenty-one years of age. On February 3d, the ninth day of the disease, the temperature at 8 P.M. was 104 5°; at 10 P.M., 103.5°; at 12 midnight, 103 8°; at 1 A.M., 104°; at 2 A.M., 103°; at 3 A.M., 100°; at 4 A.M., 98°; at 5 A.M., 103.2°; at 6 A.M., 105°; at 7 A.M., 104 6°. Guaiacol, 2 c.c., was applied at 1 A.M; profuse sweating began at 1.45 A.M.; a chill, lasting an hour, occurred between three and four hours after the application.

In almost all of these eight cases the cutaneous application of guaiacol was followed by a marked fall in temperature. In Case II the first application of only twenty drops had no effect. The dose, however, was very small and was applied to the outer side of the thigh without previous preparation of the part. In Case III the results, with twenty drops and with half a dram, were either negative or very slight. This was a case of pneumonia in a fat man. In Case VII twenty drops and half a dram were followed by slight effect, while a dram (3.75 c.c.) showed a marked result. This case was that of a colored woman, in whom the skin was possibly thicker than in the other patients. The lowest point of the temperature was reached generally in from two to four hours, the average time being between three and four hours. In almost all of the cases there was very profuse sweating, of which in one instance the patient complained bitterly. In the majority of the cases after the lowest point in the temperature was reached there was a rather rapid rise, associated in almost all instances with chilly sensations, in several instances with severe shaking chills, the temperature within two hours generally reaching a point as high or higher than at the time of the application. In none of the instances was there any marked effect upon the pulse or respiration During the fall of temperature there was generally some slowing of the pulse; in the cases in which there were marked chilly sensations with the reaction, the pulse was somewhat quickened. In none of our cases were there symptoms of collapse. The urine showed no marked changes. The breath shortly after the application of guaiacol gave a distinct odor of the drug.

Hence, while the antipyretic action of guaiacol was certainly very striking in these cases, the profuse sweating, the marked chills, in some instances even with small doses, and the decidedly weakening effect which was noted in those cases in which it was frequently repeated, have led us to take a somewhat less hopeful view of its possible value than Dr. Da Costa's experience would suggest; and these conclusions would on the whole seem to agree with those which have been reached by the majority of observers who have recently experimented with this drug. Sciolla (quoted by Stolzenburg, *Berliner klin. Wochenschr.*, 1894, No. 5) used guaiacol in a variety of different febrile affections. He applied the drug with a camel's hair brush to different parts of the body, covering it immediately with a protective dressing. The doses used varied between 2 c.c. and 10 c.c.

In all cases there was a fall in temperature lasting between three and four hours, amounting to several degrees C. This fall was generally associated with profuse sweating. After six or eight hours there generally occurred a rapid rise in temperature associated with a chill or chilly sensations. Shortly after the application of guaiacol the characteristic taste was noticed.

Sciolla determined that the drug was excreted in the urine and in the respiration in from five to six hours without deleterious effects. He concluded that, used in this manner, guaiacol is a prompt and harmless antipyretic.

Bard (*Lyon Medical*, June 4, 1893) used the drug by this method in cases of tuberculosis, erysipelas, and pneumonia. At first he used doses of 3 c.c., but soon diminished the doses to 2 c.c. or 1 c.c., or even 0.5 c.c. He noted the profuse sweating in almost all of the cases, and frequently the following chills. He believes that the drug, applied in this manner, may be of value in some cases of tuberculosis, though he recommends special care in the dose with weak patients.

Lannois (*Lyon Médical*, August 6, 1893) obtained exactly similar results in a number of obser-

vations. He notes, however, that in some instances the local effects upon the skin may be unpleasant. In one case, for instance, in which the drug was applied on an area on which tincture of iodin had been recently painted, there was marked exfoliation of the skin, while in another, in which the sweating was profuse, the skin over the seat of application was raised in quite large bullæ.

Stolzenburg (*Berliner klinische Wochenschrift*, 1894, No. 5) made an extensive series of observations in Senator's clinic with similar results, excepting that he notes the falls in temperature as lasting rather longer—between five and eight hours. At the time when the lowest point was reached there was, in a majority of instances, chilliness, or a definite chill, with a rise in temperature to a point even higher than before. There was almost always profuse sweating. In weak patients he has seen symptoms of collapse. While in most instances no ill effects on the respiration and pulse were noticed, the patients often complained of the weakening effect of the sweating. In a few instances a dark color of the urine was noted, similar to that seen in carbolic-acid poisoning. In his conclusions Stolzenburg states that the initial dose should not be above 2 c.c., and that it should probably never be above 4 c.c. on account of the danger of collapse. On account of the weakening sweats and chills, with the reactive fever, he concludes that the continued use of guaiacol is not to be recommended.

It will be noted that all observers agree as to the efficacy of guaiacol applied externally. Its employment has been so far limited to the fever of infectious diseases of various sorts, but in all it has been efficacious. There can be no doubt also that it is *absorbed* directly through the skin. Lannois (*loc. cit.*) tested in three cases the inhalation of guaiacol in considerable quantities for a considerable time, but without effect. Stolzenburg (*loc. cit.*) tried similar experiments with Curschmann's mask. More recently Linossier and Lannois (*Comp. rend. hebd. de la Soc. de Biol.*, February 9, 1894) have shown that while a small amount was actually absorbed by inhalation, as proved by its appearance later in the urine, this quantity was insufficient to affect the temperature. Its *elimination* has been shown by Sciolla and Lannois to take place by the urine and the respiration. The early appearance of the taste suggests that it appears in the saliva. The elimination, according to Sciolla (*loc. cit.*), is accomplished in from five to six hours. Lannois and Linossier have shown that in most instances traces appear in the urine a quarter of an hour after the beginning of the application. The part to which the guaiacol is applied would appear to have some influence upon the rapidity and thoroughness of the action. This would be suggested by the result in Case II of our series, in which the first application on the external part of the thigh showed no result, while afterward doses but slightly larger applied to the abdomen were so efficacious.

There is, of course, no difference in the effect of guaiacol absorbed through the skin from that which follows its introduction into the system in other manner. Lannois, for instance, showed that its action in enemata was exactly the same, the effects appearing in almost the same time. In one instance we have made a similar experiment, the patient being the same colored woman who figures in Case VI in the earlier part of this note.

On March 4th the temperature at 8 A.M. was 100.7°; at 12 M., 100 2°; at 4 P.M., 99.8°; at 5 P.M., (?); at 6.30 P.M., 100.8°; at 7.30 P.M., 98.8°; at 8.30 P.M., 97°; at 9.30 P.M., 95.2°; at 10.30 P.M., 96 8°; at 11.30, 97.2°; at 12 30, 97.3°; at 4 A.M., 104.2°; at 5.30 P.M. guaiacol, 2 c.c., was given by enema. At about 12.30 there were well marked chilly sensations; there was, however, no very marked sweating. The urine after the application showed a well-marked, smoky, greenish-brown color.

Interesting as may be these results concerning the antipyretic action of guaiacol, there is really little that is new, excepting in so far as they prove the readiness of its absorption through the skin. Exactly similar effects have been shown from the hypodermatic and rectal use of creosote, of which drug guaiacol forms the most important part.

Lépine, who used creosote hypodermatically (*Semaine Médicale*, 1890, No. 20, page 221), noted marked sweating after the injections.

Gimbert (*Gaz. hebd.*, Paris, 1891) also noted similar results from the subcutaneous introduction of creosote—*i. e.*, the sweating, the fall of temperature, the chill with reactive rise in temperature.

Revillet (*Semaine Médicale*, 1891, page 266) used creosote by enemata in doses of from 2 c.c. to 4 c.c. He noted the almost immediate taste of the drug in the mouth, the elimination by the respiration, by the urine, by the saliva, the well-marked antipyretic action, with the profuse sweating, and the subsequent disagreeable chilly sensations. Though the creosote was free from carbolic acid, he noted in one instance, two hours after a dose of 3 c.c., a well-marked dark color in the urine. The exact similarity of all these results with those formerly obtained by the administration of carbolic acid may be noted. Lannois (*Lyon Méd.*, 1882, No. 30), for instance, in speaking of the results of the treatment of typhoid fever by carbolic acid, notes the same train of symptoms—the fall in temperature with profuse sweating, the reactive chill and rise in temperature, the discoloration of the urine. This similarity is, of course, not remarkable when one considers the close chemic relation between guaiacol and carbolic acid.

In *conclusion*, then, from the few experiments which we have made here, and from a consideration of the results obtained by other observers, we are perhaps justified in asserting that guaiacol applied to the skin is readily absorbed into the economy; that its application is followed in most instances of fever by a gradual reduction in temperature, which reaches its lowest point generally between three and four hours after the application; that this fall of temperature is almost always associated with disagreeably profuse sweating; at a variable period, usually a short time after the lowest point is reached, the temperature rises rapidly, generally in association with marked chilly sensations, if not with an actual chill; that a dose of more than 2 cc. is rarely advisable; that exactly similar results are produced by the absorption of guaiacol through any other channel (the rectum, or the subcutaneous tissues); that the antipyretic action is exactly similar to that which has been previously observed to follow a corresponding use of creosote and carbolic acid; that owing to the disagreeable effects of the immediate application of guaiacol (sweating and chilliness) and the weakening effects of the continued use, its employment as an antipyretic, as in the case of carbolic acid and creosote, will probably have but a limited application.

CLINICAL LECTURE.

A COINCIDENT INTRA-UTERINE AND EXTRA-UTERINE PREGNANCY—TWO CASES OF OBLIQUELY-CONTRACTED PELVIS—THE PRIMARY REPAIR OF A LACERATED PERINEUM—STRICTURE OF THE RECTUM FOLLOWING A WHITE-HEAD OPERATION FOR HEMORRHOIDS.[1]

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COINCIDENT INTRA-UTERINE AND EXTRA-UTERINE PREGNANCY.

GENTLEMEN: The specimen of a tubal pregnancy that I here present to you was removed a few weeks ago, by abdominal section, from a young woman with a peculiar history. Just four weeks before I saw her she had induced abortion on herself at the fourth month of gestation, by passing into the womb this rubber catheter and its steel stylet that she had bought at a drug-store. Profuse hemorrhage followed, and a few hours later the fetus was discharged. She saw it plainly, distinguished its limbs, trunk, head and face, and from her unprompted description of its development and length it corresponded with the date that she believed pregnancy had reached. She threw the fetus and its placenta down a water-closet. Shortly after the delivery the woman was seized with abdominal pains that increased steadily in severity until she was forced to go to bed. When I first saw her I found the temperature 103°, the pulse rapid and feeble, the abdomen tympanitic and exquisitely sensitive. On vaginal examination, large, tender masses were felt behind and to the right side of the uterus. I concluded, naturally enough, that I had to deal with a case of a common kind in this hospital—septic infection of pelvic tissues from criminally induced abortion. The abdomen was opened the following day, when, to my surprise, I found the conditions characteristic of tubal pregnancy and no sign whatever of septic inflammation. Old clots and a quantity of black blood welled out as soon as the peritoneum was incised, and on removing the right tube a gestation-sac of from six to eight weeks' development was found in it, without an embryo, but with the chorial villi so well developed and so evident that, as you see, there is no mistaking the character of the mass within the tube. Here is an extra-uterine pregnancy that never could have been diagnosticated or even suspected before operation. The intra-uterine pregnancy that must have coexisted with it and the induced abortion completely masked its symptoms. The patient has made a perfect recovery.

OBLIQUELY CONTRACTED PELVIS.

I cannot present to you the next two patients in the flesh, for they are inmates of other hospitals, but I show you their photographs, which are quite as instructive. Figs. 1 and 2 show the pelvis of a young primigravida recently delivered in the Maternity Hospital,

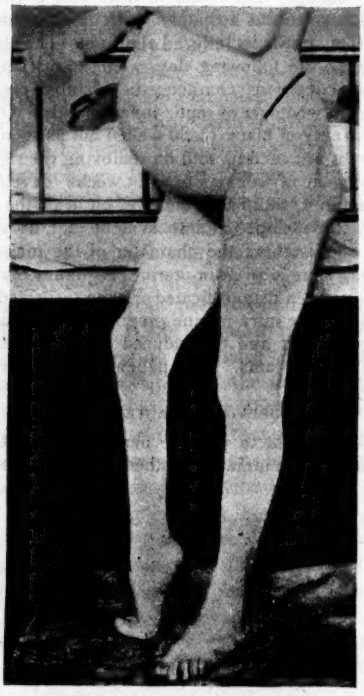
FIG. 1.

An obliquely deformed pelvis. (The lines follow the crests of the ilia; the central dot corresponds with the depression below the spinous process of the last lumbar vertebra.)

[1] Abstracts from clinical lectures at the Philadelphia Hospital.

under the charge of my friend Dr. Robert H. Hamill, who kindly permitted me to examine her. The girl had developed tuberculous disease of the right knee-joint at the early age of three months. Ankylosis of the joint

FIG. 2.

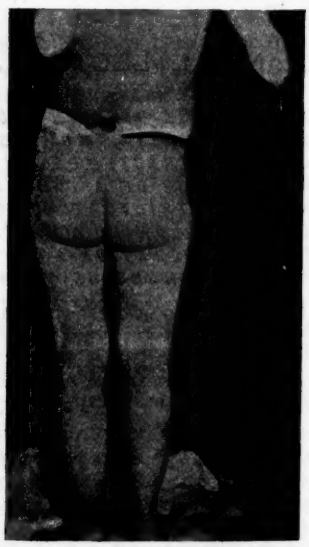


The same as Fig. 1, but in profile, showing the backward displacement of the left innominate bone.

and atrophy of the limb followed, so that from the time of the first attempts to walk the greater part of the weight of the trunk has been supported by the sound leg. As always happens in such cases, the corresponding innominate bone is displaced backward, upward, and inward, encroaching to some degree upon the area of intra-pelvic space and distorting the shape of the pelvic inlet and canal. The direction of the pelvic canal, too, is altered. The inlet is directed to the unsound side; the outlet toward the sound side. The best known example of this deformity is the unique case described by Mme. LaChapelle, of a young woman who had always borne the weight of the trunk entirely upon one leg, the other being absent. The pelvis was so distorted in consequence that labor was very difficult. I have learned from experience, however, that ordinarily simple, oblique distortion of the pelvis, without atrophy of the sacral ala and ankylosis of the sacro-iliac joint, as in a true Naegele pelvis, is not to be feared. On the other hand, even a slight oblique distortion, along with other pelvic deformity, such as antero-posterior or lateral contraction, is to be dreaded. Cases in the former category may exhibit some slight abnormality in pregnancy or some unimportant anomaly in the mechanism of labor, but the result is usually fortunate. The history of my case bears out this statement. The woman had backward displacement of the womb, and symptoms of incarceration and dysuria suddenly appeared in the fifth month. Eighty-eight ounces of urine were drawn off one morning, although until the night before there had been no difficulty in urination. In labor there was a rather curious anomaly of mechanism —the vertex presented, the occiput was turned forward and to the right, the anterior parietal bone caught on the ramus of the pubis, and the head was laterally inclined, so that the posterior parietal bone descended first into the pelvic inlet and canal. The common Naegele obliquity was reversed. Aside from these two minor complications, there were no difficulties in pregnancy or labor.

The second patient, from the University Maternity, shows a minor grade of the scoliotic obliquely-distorted pelvis. She had congenital syphilis, with some intracranial lesion that determined atrophy and diminished power on the left side. The difference in power between the two sets of spinal muscles has caused a lateral curvature, with the convexity toward the left side. (Fig. 3.) The distortion of the spine necessarily throws the greater weight of the trunk on the left leg, with the same result noted in the preceding case—a displacement of the corresponding innominate bone upward, backward, and inward. This woman is not yet delivered, but I anticipate no special difficulty in labor. A peculiar abnormality at present is a marked lateral tilting of the womb to the left instead of the common inclination to the right side. It was interesting in both of these cases to observe the relation between the spine of the ischium on the affected side and the nearest edge of the sacrum. In the first case it is one finger's breadth nearer on the deformed than on the normal side; in the second there is about half the distance on the deformed that there is on the sound side.

FIG. 3.

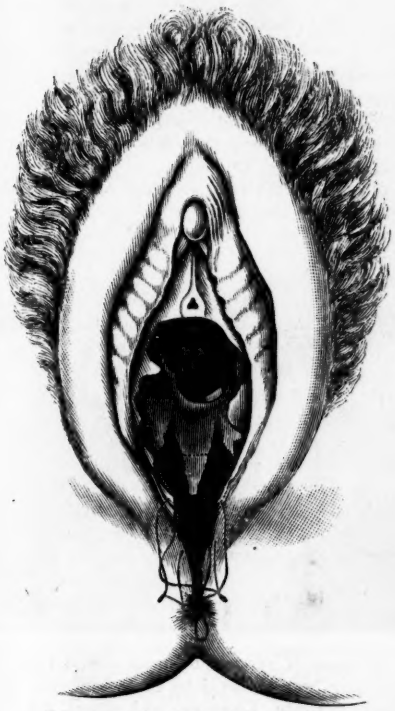


A scoliotic pelvis.

PRIMARY REPAIR OF LACERATED PERINEUM.

My next patient has a common condition, but one that should interest you. There has been here a laceration of the pelvic floor in labor at some remote period. There is now a large retrocele as the result of the injury to the levator ani muscles and of the stripping off of the vaginal mucous membrane from its subjacent attachments by the passage of the child's head through the vagina. The method of repairing this old injury must now be familiar to you, for we have had already in this clinic a number of modified Emmet operations. I would prefer, if I could, showing you the method of immediately repairing a primary tear. Were this always done properly there would be few opportunities for the secondary operation. In default of cases of primary

FIG. 4.



Primary repair of lacerated perineum.

tears for clinical demonstration, I have had constructed a gigantic model for class teaching (Fig. 4) that is, perhaps, more instructive than a living woman would be. You observe in this model the perineal tear dividing at the base of the posterior column of the vagina and running up both lateral sulci. It is in these sulcal tears that the levator ani muscle is injured. To restore the pelvic floor satisfactorily and permanently it is necessary to bring the fibers of this torn muscle in firm and accurate apposition. To do this it is very rarely necessary to sew up the sulci separately, as is done in the secondary operation, and this is fortunate for several reasons. In the first place, the operation is tedious and painful, requiring an anesthetic and demanding more skill in plastic surgery than is commonly possessed by the general physician. Further, if one places his stitches in the vagina they must be removed after the vaginal and perineal tears are healed—a troublesome and painful procedure. Catgut stitches would obviate this difficulty, but catgut is not to be depended upon, exposed, as it must be, to the decomposing action of the lochial discharge. The advantages, on the other hand, of the method illustrated on the model are manifold. The stitches are few in number; they can be introduced rapidly and easily, and, tied or shotted on the external perineum, they are easy to remove; an anesthetic is not required in this primary operation, and the ultimate result is perfect if the stitches are inserted deeply enough and with sufficient lateral curve to include a thick bunch of muscle on each side. On this point I can speak with assurance, for I have tested the method thoroughly in hospital and private practice. In the living woman it is necessary to insert, as a rule, two more sutures than are shown in the model, one above and one below the highest stitch. These I have omitted, so as to avoid a multiplicity of sutures that might be confusing. The needle used must be large and well curved. It is convenient to have one set upon a handle, with the eye at the point. This is driven through the tissues threaded with silk wormgut and withdrawn.

UNUSUAL STRICTURE OF THE RECTUM.

The next patient is a woman on whom I operated two weeks ago for a stricture of the rectum. I bring her before you to remove the stitches and to observe the success of the operation. This case interested me much and puzzled me not a little. She informed us that she had been operated upon eight weeks before in another hospital, but for what the operation had been done she could not say. Ever since, she had had great and constant pain in the back, increasing difficulty in defecation, so that she was compelled to take large doses of a laxative every day, and suffered excruciating agony when the bowels did move. On examination, I found a firm, broad annular stricture of the rectum just within the anus, barely admitting the tip of my little finger. There were two angry fissures in ano, and the whole circumference of the stricture was badly ulcerated. The slightest attempt at dilatation caused unbearable pain, and the results of this treatment did not seem to be promising, in view of the deep ulceration and the possibility of carcinoma, an idea that I then entertained. Consequently, I determined on a radical treatment. The recto-vaginal septum was cut with one blade of a scissors in the rectum and the other in the vagina, until the stricture was well exposed to view. This stricture was then completely excised. The end of the rectum was then brought down and stitched to the anus and the wound closed by rectal and perineal stitches, as though there had been a complete tear of the perineum after labor. I am happy to report to you a complete cure. The wound is firmly united, and in perfect apposition; there is entire control over the sphincter, and no difficulty in defecation. From the time the girl left the clinic-room after the operation she suffered none of her former pain. I have recently had the nature of this case satisfactorily explained to me by the surgeon who first had charge of it. He had performed a Whitehead operation for hemorrhoids while his patient was suffering from acute gonorrhea with a

profuse discharge. The area of his operation had been infected and a virulent rectal gonorrhea was the result.

CLINICAL MEMORANDA.

A SUCCESSFUL SIMULTANEOUS TRIPLE AMPUTATION.[1]

BY HENRY R. WHARTON, M.D.,
OF PHILADELPHIA;
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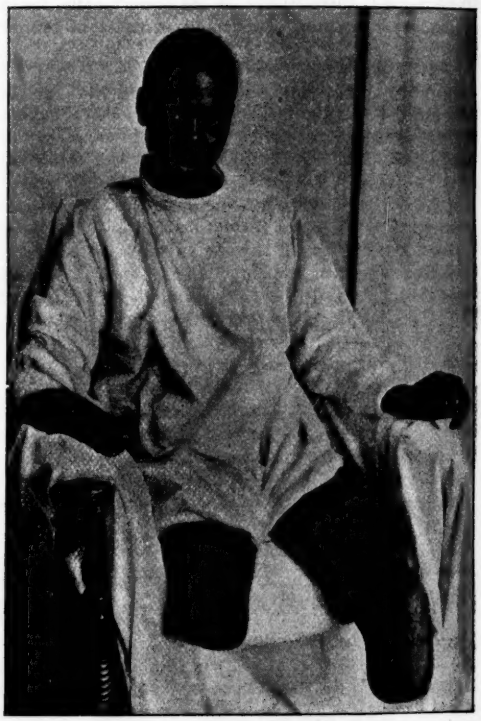
L. J., twenty-one years of age, was admitted to the University Hospital on the night of October 20, 1893, having a short time before been run over by a train on the Philadelphia, Wilmington, and Baltimore Railroad. Upon examination after his admission, it was found that he had sustained a crush of the right leg extending to the knee-joint; the left leg was crushed and torn off in its middle third; and the right hand and lower part of the right forearm were completely crushed. At the time of his admission there was little bleeding from the injured parts, although it was stated that he had lost a large amount of blood before he was brought to the hospital. He exhibited marked symptoms of shock, his surface being cold and his temperature being a little over 96° F. Esmarch's elastic straps were wrapped around the lacerated tissues of the limbs to control any bleeding which was present, and the patient was placed upon the operating-table and surrounded by hot-water cans and covered with blankets; his clothing was only removed so far as to expose freely the injured parts. He was given one thirtieth of a grain of strychnin hypodermatically, and this dose was repeated in half an hour. When I saw him for Prof. Ashhurst, into whose service he came, about an hour after his admission to the hospital, I found that he was reacting from the shock, his temperature was 98° F., and although his pulse was rapid it had some volume. Dr. Girvin, the resident surgeon in charge of the patient, stated that his condition had markedly improved since his admission. Under the circumstances I considered that an attempt to remove the crushed limbs was justifiable. The patient was again given one-thirtieth of a grain of strychnin hypodermatically and carefully etherized, and Esmarch straps were applied to each of the injured limbs some distance above the proposed points of amputation. The right limb was first prepared for operation by washing with soap and water and bichlorid solution, and I amputated this limb just above the knee, making antero-posterior flaps; the vessels were secured by ligatures. While the first limb was being removed the other limbs were prepared for operation by my assistants, so that little time was lost, and I amputated next the left leg a short distance below the knee-joint, making lateral flaps, and the right forearm in its middle third. Having secured the vessels, the stumps were closed and dressed with a bichlorid-gauze dressing.

The patient lost very little blood during the operation, and his condition after its completion seemed to me to be almost as good as before it was begun.

[1] Read before the College of Physicians, February 7, 1894.

He was given strychnin, one-thirtieth of a grain, several times during the operation, receiving in all from the time of his admission five injections hypodermatically of one-thirtieth of a grain each. The time consumed in amputating the limbs and dressing the stumps was about an hour and twenty minutes. The patient was placed on his bed after the operation and was kept surrounded with hot-water cans for twelve hours, was given liquid diet and about four ounces of whiskey in twenty-four hours, and five grains of ammonium carbonate every two hours. His recovery was uninterrupted, and I have the pleasure of showing him to you this evening with his stumps perfectly healed.



A few cases of successful simultaneous triple amputations have been reported by Prof. Ashhurst, and Drs. Jackson, Wallace, Lowman, and others, but the majority of patients that have suffered from injuries requiring this procedure perish promptly from hemorrhage and shock, or are in such a condition when they come under the surgeon's care that no operative treatment can be instituted. Although the mortality following multiple amputations is high, there is no reason why recoveries should not be more numerous under modern methods of wound-treatment if the element of shock could be eliminated. When, however, a case comes under the care of the surgeon, and the condition is such that it seems justifiable to amputate a number of limbs at the same time, I think there are certain details which should be carefully carried out.

In the first place, such cases usually present a condition of marked shock; this is to be overcome by the application of external heat, and by the use of strychnin hypo-

dermatically, the value of this drug as a heat-stimulant in such cases being unquestionable. Stimulants administered by the mouth are usually vomited promptly, and have little effect. Strong black coffee, as hot as the patient can comfortably swallow, is often retained, and in my experience is one of the most useful stimulants that can be taken by the mouth.

The practice of stripping the patient immediately and putting clean clothing upon him, by which means his surface is exposed and chilled, is to be condemned. If the clothing is dry I do not have it removed, but cut away such portions as are necessary to get a free exposure of the injured parts, and often allow the clothing which he wears at the time of the accident to remain upon him until he has thoroughly reacted, often for some days after the operation. As regards the method of amputating, some surgeons consider it advisable to have the limbs amputated at the same time by different operators, so that the patient need be under the influence of the anesthetic for the shortest possible time.

I fail to see the advantage of this method of procedure, for it seems to me that the shock of the operations when thus done synchronously must be greater than when the parts are removed one at a time, as was done in the case I have shown.

I make it a rule to amputate first the limb which has received the greatest injury, and whose removal would most likely be accompanied by the most shock, and, if the patient's condition is not markedly affected by its removal, I then operate upon the second or third, as the case may be. If, however, I find that the patient's condition becomes decidedly worse after the first limb has been removed, and that he would not possibly survive the removal of the other member or members at the same time, I desist from further operative interference, and wrap the other injured parts in an antiseptic gauze dressing and wait until he reacts, which may be in twelve or twenty-four hours; and when reaction has been established, I undertake the further amputation or amputations that may be required. I can possibly illustrate this better by reporting a case in which I adopted this procedure. During my service at the Presbyterian Hospital, in the summer of 1892, there was admitted a switchman who had been thrown from the top of a car and run over, sustaining a crush of both legs below the knee, and an extensive compound comminuted fracture of the shaft of the left femur. As the patient had reacted when I saw him, I amputated his left leg and removed a number of large fragments from the fractured femur, and drained and closed the wounds. Upon examining the patient, before operating upon the other leg, I found that his condition was so unfavorable that I did not think he would survive the removal of the second limb; his temperature, which had been nearly normal before the removal of the first limb, had fallen to 96° F., his pulse was very feeble, and his skin was covered with a cold sweat. I therefore had the other injured limb wrapped in towels which had been wrung out in bichlorid solution, and the patient was treated actively to bring about reaction from the shock. He reacted fully, and when I saw him about eight hours afterward his temperature was 99° F., his skin was dry, and he had a good pulse. He was then etherized and I amputated the second limb, and he made an uneventful recovery.

PUERPERAL FEVER, COMPLICATED WITH EMBOLIC PNEUMONIA AND PHLEGMASIA DOLENS; RECOVERY.

BY W. D. JONES, M.D.,
OF RISING CITY, NEB.

MRS. R., twenty-four years old, a woman of good general health and the mother of two children, fell in labor on November 13, 1893, giving birth to a nine-pound boy in about three hours from the initiatory pains. Labor was normal in every respect. The placenta was delivered without difficulty in thirty minutes from the birth of the child. The uterus contracted well, and was found firm twelve hours after delivery.

At the last visit the patient expressed herself as feeling as well and strong as though nothing unusual had occurred. The lochia were normal in amount and inoffensive in character.

I left the patient, feeling assured that she would have a speedy and uneventful convalescence, as the usual antiseptic precautions had been observed.

I was hastily summoned on November 19th, and found the patient with a temperature of 106° F., the pulse 130. There was marked tenderness over and about the uterus, together with decided abdominal distention and the history of a chill during the previous night.

I gave an intra-uterine irrigation of 1 : 3000 bichlorid solution and left directions for a brisk saline cathartic, and 1 : 3000 bichlorid vaginal injection to be repeated every four hours, with an ice-bag kept over the hypogastrium. The temperature rapidly declined to 102° F., but this fall was succeeded by a chill and a rapid rise to 107°. Intra-uterine bichlorid douches were now given every twelve hours, followed immediately by one of a pint of hydrogen dioxid.

This course of treatment, together with supporting measures, was continued with fluctuations of temperature between 100° and 104° F. until November 27th, when the temperature fell to normal and so remained for twenty-four hours. A chill again occurred, and was followed by a sudden rise of temperature to 103°, with violent pain over the anterior portion of the base of the right lung. This last was only controlled by morphin hypodermatically. Marked dulness over a well-defined area involving about one-fourth of the anterior half of the base of this lung was readily elicited.

The lochia at this time being normal in quantity and character, with an absence of tenderness and distention of the abdomen, and the sudden rise of temperature, with the marked pulmonary symptoms, embolic pneumonia was diagnosticated. The chest was well strapped and morphin given as indicated and supporting treatment continued. The temperature fluctuated between 102° in the morning and 103° in the evening, until the evening of the sixth day of the pulmonary infection, when there occurred a sudden gush of stinking, bloody pus into the bronchi, which for a time nearly suffocated the patient. This was expectorated into a can and must have amounted to between one and two ounces. The temperature suddenly went down to 101.5°.

Under supporting measures and dram-doses, *ter in die*, of syrup of hydriodic acid, with inhalations of chlorin-gas morning and evening, after the method of Drs. Shurley and Gibbes, the quantity and offensive

character of the expectoration gradually decreased to *nil*, with a corresponding disappearance of the dulness and a decline of the temperature to normal by December 14th, when phlegmasia dolens presented itself in the usual manner and claimed attention. This latter trouble was fortunately mild and of short duration; and now, over two months from the initiation of her serious and complicated illness, the woman is practically well.

HOSPITAL NOTE.

A CASE OF PURPURA RHEUMATICA, WITH EDEMA OF THE GENITALIA, IN A MULATTO CHILD.

Polyclinic Hospital, Philadelphia.

SERVICE OF SOLOMON SOLIS-COHEN, M.D.

[From notes taken by THEODORE A. ERCK, M.D., formerly Resident Physician.]

W. G., a mulatto, four years old, was admitted to the Polyclinic Hospital, August 24, 1893. It was learned that the child had been abandoned when he was about ten months old. The foster-parents stated that he had always been healthy until two weeks before admission, when his feet, arms, penis, and scrotum, and one of his eyelids, began to swell and became very tender to the touch; they also noticed dark-red spots upon the abdomen below the umbilicus. Upon admission the child presented purpuric spots upon the abdomen, the genitalia, and all four extremities. There was no eruption upon the face, neck, chest, or back. The joints were all sensitive, and the feet, ankles, hands, and wrists swollen. The purpuric spots were especially numerous in the flexures of the knees and elbows. There was marked edema of the prepuce. It was not deemed advisable to puncture in order to determine if the effusion contained blood. The temperature was 101° F., the pulse 104. The urine was clear, reddish-yellow in color, of acid reaction, with a specific gravity of 1024; it contained neither albumin nor sugar. It deposited a slight flocculent precipitate, and upon microscopic examination granular urates were found, and after twenty-four hours spiculated spheres of ammonium urate. There was no evidence of syphilis. Milk-diet was ordered and the following prescription written:

℞.—Sodii salicylatis . . . . . ℥ij.
Tinct. ferri chlorid. . . . . f℥ij.
Glycerin. . . . . f℥j.
Acid. citric. . . . . gr. x.
Liq. ammon. citrat. . q. s. ad f℥iv.—M.
Sig.—f ℥j, in water, every third hour.

The bowels were kept slightly loose with Rochelle salts. On the third day after admission the swelling of the joints was markedly reduced, and they were also much less sensitive to pressure, though motion was exquisitely painful. On the outer side of the left knee and upon the inner side of the left thigh, irregular-shaped blebs, filled with dark, bloody serum had formed. The purpuric spots on the rest of the body had distinctly faded. The joints were wrapped in lint soaked in a solution of tincture of opium, sodium bicarbonate, glycerin, and water. On the fifth day the swelling had entirely disappeared and the spots were hardly visible. The blebs had begun to heal after a process of ulceration. An examination of the eyes, made by Dr. Risley, showed the eye-ground to be rather paler than is usual in colored children and the lymphatics somewhat distended; but there were no spots; there was a high degree of hyperopic astigmatism in the right eye. The child was discharged on the fourteenth day, entirely well.

BACTERIOLOGIC NOTE.

DETAILED DIRECTIONS FOR A SIMPLIFIED METHOD OF PREPARING LOEFFLER'S BLOOD-SERUM MEDIUM FOR DIPHTHERIA-CULTURES.

BY A. P. OHLMACHER, M.D.,
OF CHICAGO, ILL.;
PROFESSOR OF PATHOLOGY, CHICAGO POLYCLINIC.

THE importance of the culture-test in the diagnosis of diphtheria is widely recognized in recent medical literature, and every conscientious physician feels the necessity of applying this test in practice. The subject has been well presented by Councilman[1] and by Parke,[2] and the reader is referred to these papers for practical details in the clinical application of the culture-test. Unfortunately, however, unfamiliarity with the technique of this method handicaps the practitioner; and, as he is often situated out of reach of laboratory assistance, he is compelled to neglect the valuable aid in the diagnosis of throat-affections which the culture-test affords. This objection likewise applies to an ever-increasing multitude of other laboratory methods in clinical diagnosis, and in his capacity of laboratory teacher, the writer feels the great importance of *detailed instruction in technique*. The hope of meeting this demand in relation to the diagnosis of diphtheria is the motive for submitting the following directions.

The actual knowledge of bacteriologic manipulation demanded in the application of this test may be readily acquired. The appliances necessary for this, as for all ordinary bacteriologic studies, are readily procured.[3]

Granting that the physician has mastered the elementary details of bacteriologic technique, the special application of the diphtheria culture-test still presents one considerable difficulty—that is, in the preparation of the special blood-serum mixture of Loeffler.

Councilman (*loc. cit.*, p. 550) has called attention to a simple process by which the difficulty in the preparation of Loeffler's medium is much reduced. This process consists in the immediate coagulation of the serum-mixture in a steam sterilizer, and the subsequent sterilization of the solid serum by the discontinuous method, as employed in the preparation of ordinary agar and gelatin. In the details of Councilman's method, however, certain precautions are absolutely essential, and we wish to direct attention to these details, which were not, for obvious reasons, included in the contribution of Councilman. At best, the preparation of Loeffler's medium is

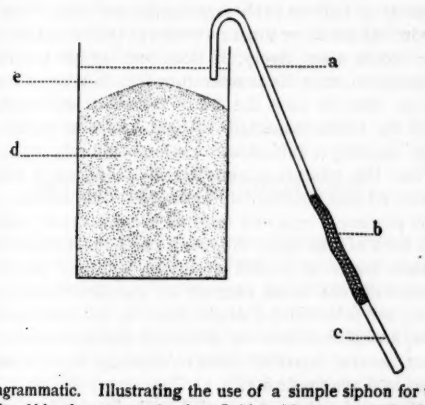
[1] "The Pathology and Diagnosis of Diphtheria," American Journal of the Medical Sciences, November, 1893, pp. 540-552.

[2] Medical Record, February 11, 1893.

[3] The simplified directions, and the descriptions of simple apparatus, in Salmonsen's Bacteriological Technology for Physicians, are extremely valuable to beginners in clinical bacteriology.

a time-consuming task, and the desirability of some more easily prepared medium is felt.[1] It is believed, however, that the following directions will enable a physician to prepare his own blood-serum mixture with a minimum amount of time and trouble.

One or two large glass jars, of a capacity of a gallon each, are sterilized by dry heat; or by washing with a 1:1000 sublimate solution, followed by alcohol and ether. The museum jars of Whitall, Tatum & Co. make very convenient receptacles (see Abbott, *Principles of Bacteriology*, p. 70); but any large, covered vessel of glass or metal may be employed, though glass is preferable, because it enables one to view the height of the layer of serum. After sterilization, the jars are taken to the slaughter-house and filled with freshly-shed cows' blood or calves' blood. The blood is to be caught as it spurts from a cut in the throat of the animal. After wiping the sides and edges of the jar the lid is replaced and the jar set aside and kept perfectly quiet until the blood has coagulated firmly. The jar, with its contents, is now to be carried to the laboratory with as little agitation as possible. It is set in a cool place—out of doors in winter, or in an ice-chest in summer—but the mass must not be allowed to freeze.



Diagrammatic. Illustrating the use of a simple siphon for the transfer of blood-serum and other fluids without contamination. *a b c*, the siphon; consisting of the angular glass tube *a*, the rubber tube *b*, and the short glass tube (mouth-piece) *c*. *d*, the coagulum. *e*, the layer of serum.

At the end of twenty-four hours a layer of serum will be seen on the top of the coagulum. This first layer of serum is usually about an inch in depth, and more or less clear and straw-colored. This serum is to be transferred to a flask of sufficient capacity. The most expeditious method of effecting this transfer is by the aid of a siphon, which is to be made from a piece of glass tubing of appropriate length, and bent at the proper angle. The angular glass tube is to be provided with a piece of rubber tubing and a short glass "mouth-piece" on its longer arm.

The length of the angular glass tube, *a*, Fig. 1, will depend on the height of the jar. The rubber tube, *b*, and the mouth-piece, *c*, should each be about three inches in length. The siphon, consisting of the pieces *a b c*, is to be sterilized by steaming an hour or so in the steam sterilizer; or by the employment of a 1:1000 sublimate solution, followed by alcohol and ether. The short arm of the angular tube, *a*, is carefully lowered into the serum, where it is to be steadied by an assistant. Then, with the forefinger and thumb of one hand holding the rubber tube, *b*, at its middle, the operator sucks upon the tube, *c*, preventing the serum from flowing into his mouth by pressure upon the rubber tube. The siphon being filled with serum, the terminal tube, *c*, is removed, and the serum is allowed to flow into the previously sterilized flask. The short arm of the siphon is lowered into the serum until the escaping fluid becomes too bloody. A certain amount of blood coloring-matter in the serum does no harm, as will be pointed out; and in fact, it is almost impossible to obtain a perfectly clear serum without a second siphonage.

If the jar containing the coagulum be now set aside for another period of twenty-four hours, a fresh quantity of serum may again be obtained. In this way from 500 to 1000 c.c. of serum may be obtained from a gallon of blood. Of course, the jar of blood and the recovered serum are to be covered and kept in a cool place until sterilized.

While it is advisable to conduct the preceding operations with as much cleanliness and care as possible, it is not necessary to observe the strict precautions required in the effort to obtain *sterile* blood-serum. The sterilization by steam in the present method is sufficient to destroy the ordinary accidental organisms.

Three parts of the recovered serum are now to be mixed with one part of meat-infusion containing 1 per cent. of glucose. This mixture of blood-serum and glucose-bouillon is known as Loeffler's mixture. The meat-infusion, or bouillon, as it is more properly called, is made by macerating one-half pound of lean, finely-chopped beef in a liter of water for twenty-four hours, the mixture being kept at a low temperature. The infusion is strained through a cheese-cloth, and the fluid squeezed out of the beef. To the infusion is added 1 per cent. of beef-peptone, ½ per cent. of common salt, and 1 per cent. of glucose. The mixture is to be rendered *slightly alkaline* by the cautious addition of a strong solution of caustic soda, and then boiled for half an hour, water being added from time to time to compensate for the loss by evaporation. The glucose-bouillon is now filtered through a paper filter, allowed to cool, and then it is ready for mixture with the blood-serum. Of course, if the glucose-bouillon is prepared in advance of the serum, it must be sterilized, after filtering, by heating for twenty or thirty minutes in the steam sterilizer, on each of three successive days.

A sufficient number of test-tubes have, in the meantime, been prepared. For convenience in performing inoculations of the serum with the cotton swabs described by Councilman (*loc. cit.*, p. 550), it is desirable to employ short, wide test-tubes, in preference to long, narrow ones, as containers for the blood-serum. After being carefully

[1] Schloffer (Centrabl. f. Bakteriologie u. Parasitenkunde, 1893, Bd. xiv. No. 20) has directed attention to the value of urine-agar as a diphtheria culture-medium. If the claims of Schloffer be substantiated the matter is one of considerable importance to physicians. Mr. F. E. Wynekoop, assistant in embryology in the College of Physicians and Surgeons of Chicago, is making a series of experiments on the comparative value of urine-agar and other media for the Loeffler bacillus. We will naturally look with interest to the results of these experiments.

washed and brushed, and drained, the test-tubes are stoppered with cotton plugs (the surgeon's plain absorbent cotton is preferable), and then heated until the cotton plugs are observed to brown slightly. This dry sterilization may be done in the oven of a kitchen stove or of a gasolin-stove.

The cotton swabs employed in obtaining the material for inoculation, devised by Prudden and described by Councilman, are prepared in essentially the same manner as the sterile test-tubes. A bit of absorbent cotton is twisted on the roughened end of a piece of wire (No. 16 aluminum wire is a convenient size, and very useful on account of its resistance to oxidation), the length of which is about an inch less than the length of the test-tube that is to enclose it. The wire, armed with its swab, is to be pushed into a clean test-tube, and the test-tube stoppered with a cotton plug. A number of tubes prepared in this manner are sterilized by heating in an oven until the cotton browns.

The mixture of blood-serum and glucose-bouillon is now to be transferred to the test-tubes that have been stoppered and sterilized. At this stage it is necessary to call attention to a very essential precaution—viz., the shunning of *air bubbles* in the serum collected in the test-tubes; for, on subsequent heating, the bubbles persist until the serum begins to solidify, when they burst and leave unsightly and ruinous cavities in the medium. It is necessary, then, to transfer the serum to the tubes with as little agitation as possible, and for this purpose a long glass pipet holding about 8 c.c. is employed. The pipet is plunged into the serum in the flask and filled by gentle suction, its top is closed by the ball of the index finger, and it is then removed from the flask and carefully lowered into the open mouth of the test-tube. The pipet should be steadily lowered into the test-tube, in order to avoid smearing the site to be occupied by the stopper with serum. When the point of the pipet reaches the bottom of the tube, the column of serum is gently released, the pipet cautiously removed, and the tube again stoppered and set aside. In this way the desired number of tubes are filled. About 8 c.c. constitute the proper quantity of the mixture for the wide tubes, and 5 c.c. for the narrower ones.

We have now arrived at the most important step in the preparation of our Loeffler's medium; that is, its solidification and subsequent sterilization. It is here that the steam sterilizer finds employment, and for this method, as for all other bacteriologic manipulations demanding a steam sterilizer, the well-known Arnold steam sterilizer answers every purpose. In the following description this instrument is referred to as the sterilizer.

In the operation now at hand two conditions must be observed, viz.: that only a single layer of tubes be solidified at one time, and that too much heat be avoided. In other words, the heating necessary to effect solidification of the mixture must be uniform and not too intense. These precautions are necessary to avoid an accident which is absolutely fatal to the success of the work; that is, the *production of bubbles* in the medium, which ruin the surface, as already pointed out. We have found, for example, that if more than a single layer of tubes were exposed in the sterilizer, the bottom layer solidified first, and before the serum in the upper tubes had solidified, bubbles had appeared in the lower tubes and spoiled the contained mixture. Further, when the lid of the sterilizer was tightly closed, the heat thus generated seemed invariably to induce the formation of the troublesome bubbles in the solidifying serum. The maxims which we may deduce from these observations are: to expose only a single layer of tubes at one operation; and to solidify the mixture with the lid of the sterilizer ajar.

The surface of the solid mixture, exposed in the test-tubes, must be a slanting one; hence it is necessary to incline the tubes to the proper angle before the medium solidifies. For this purpose the operator may devise a simple basket of wire netting in whch the tubes may be laid at the proper inclination. The sterilizer should be provided with perforated tin or wire-netting shelf, which is placed in the upper portion of the steam-chamber, in order that the tubes may be readily accessible and that the jet of steam may be well diffused. The sterilizer is set on the stove (coal-stove, gasolin-stove, or gas-burner), and when the steam is freely rising in the interior the improvised wire basket containing a layer of tubes of serum is placed on the shelf. The lid of the sterilizer (not the outside "hood") is placed on the top, and so tilted and held in position that a space of a quarter or half an inch remains on one side. The heat under the sterilizer must now be controlled so that, while the steam rises freely, it does not attain a sufficient pressure to raise the temperature to a dangerous degree. From time to time the lid of the sterilizer is removed and the tubes inspected. About fifteen or twenty minutes' heating is sufficient to perfectly solidify the serum. When the mixture is perfectly solid the set of tubes is removed and another batch placed in the sterilizer; and this process is repeated until all the tubes are prepared. On each of the three following days the tubes of solid serum are to be heated for twenty or thirty minutes, in essentially the same manner as just described. However, the rule about a single layer is not quite so absolute, and if due care be exercised about the amount of heat, several layers of tubes in separate baskets may be sterilized at one sitting.

Prepared as here directed, Loeffler's blood-serum medium is an opaque substance, with a beautifully smooth and shining surface. The color of the medium depends upon the amount of blood-pigment in the serum and upon the color of the peptone. With perfectly clear serum and good white peptone,[1] the medium is of snowy whiteness, and, with its smooth, glistening surface, makes an exquisite background for all cultures of chromogenic bacteria. The diphtheria-bacillus, however, usually forms a whitish or grayish culture, and it is therefore evident that the presence of a trace of the chocolate color induced by the blood-pigment would improve the culture medium. It is to the smoothness of the surface, however, that we must look especially in our mixture; for the least trace of a colony is instantly recognized on this smooth surface. This makes clear the disastrous effects

[1] I have found difficulty in obtaining beef-peptone giving the peptone-reaction, and making a colorless aqueous solution. A company of chemists at the Union Stock-yards, Chicago, is however, now making a beautiful product, which it has placed on the market through the agency of E. H. Sargeant & Co., of Chicago.

of bubbles in the medium. A certain quantity of "water of condensation" is expressed out of the serum, and this should be allowed to remain, at least until the serum is to be inoculated, for it exerts an important function in preserving the medium.

Unless certain steps be taken the water in the tubes evaporates, and the mixture rapidly dries and shrinks until it is unfit for use. This may be largely prevented by singeing the top of the cotton plug, pushing it below the mouth of the tube, and then sealing the mouth of the tube with a piece of surgeons' gutta-percha tissue. The neck of the tube is to be slightly warmed, and a piece of gutta-percha tissue placed over the mouth, and then pressed against the warm neck until it adheres all around. The tubes, thus sealed, may be preserved in a tightly covered glass jar that contains an inch or so of water in its bottom; or in a tin pail with a tight lid, the interior of which has been coated with asphalt varnish, and that likewise contains some water at the bottom.

It must be evident that this method may be applied to other blood-serum mixtures than Loeffler's diphtheria-medium, and that, modified in this way, the manufacture of blood-serum media is robbed of much difficulty. At best, however, the preparation of Loeffler's diphtheria culture-medium is a time-consuming task, to which the busy physician will only devote himself under protest, and we will look with pleasure for the announcement of some equally efficient and more easily prepared medium.

LABORATORY OF PATHOLOGY, CHICAGO POLYCLINIC.

MEDICAL PROGRESS.

Dysmenorrhea.—In a paper recently read before the Medical Society of the State of New York, DR. HOWARD A. KELLY defined dysmenorrhea as pelvic pain at the time of menstrual congestion and menstrual flow, and thus a concomitant symptom of a large variety of diseases of the uterus, tubes, and ovaries.

An analysis of 400 cases in which celiotomy had been performed for pelvic lesions showed that 289 suffered from dysmenorrhea. Of the whole number 255 had some form of obscure pelvic ailment, such as usually escapes the attention of the general practitioner—*e. g.*, pelveo-peritonitis, with adherent ovaries and tubes, tuberculous peritonitis, pyosalpinx and hydrosalpinx, tubo-ovarian abscess, salpingitis and hematoma of the ovary—and among these dysmenorrhea was present in 180 cases. In addition, there were 55 cases of retroflexion, of which 44 also suffered from dysmenorrhea. The majority of these patients applied for relief solely because of their pelvic pains, which were aggravated at the menstrual period, and many of them had been treated for months and years for dysmenorrhea. Small myomata are also the cause of this symptom. Such growths may frequently be detected by careful rectal examination in young women who have been treated for years for dysmenorrhea. A similar manifestation attends the presence of large myomata filling the pelvis. The conclusion thus seems justified that many patients who are being treated for dysmenorrhea have some minor or obscure pelvic lesion as its source.

There is another type of dysmenorrhea common to young girls in whom the menstrual habit is becoming established. This type is usually associated with a variety of dyscrasiæ, the most prominent of which is chlorosis, and does not often persist beyond the twentieth year.

There is also a dysmenorrhea of neurotic and hysteric women, whose entire nervous system is at fault, and in whom moderate pain is described as "agony." This type is especially prone to be associated with defective development of the uterus and ovaries. In the treatment of dysmenorrhea the use of morphin is justifiable under but one condition, and that is when the dysmenorrhea occurs in a patient who is being prepared for the removal of some gross pelvic lesion which is the cause of the symptom. It should be a cardinal rule never to give morphin in any case of protracted disease marked by recurring paroxysms of pain, and which does not tend toward a fatal issue. In young girls attention to hygiene, regulation of exercise and study, and above all, rest in bed are essential in the treatment. Mild sedatives, hot teas, and a full, hot hip-bath, with the administration of aloes and myrrh or asafetida to empty the lower bowel, help to accentuate the pelvic congestion and thus hasten the flow. So-called "local treatment" in young women is rarely of value, and once begun is likely to be kept up indefinitely. If the dysmenorrhea be persistent and excessive in this class of cases, a thorough examination per rectum and abdomen under anesthesia should be made without delay.

When serious pelvic lesions exist which threaten life, or are incompatible with fair health, and there is no prospect of relief from other measures, the tubes, ovaries, or uterus should unhesitatingly be removed. When dysmenorrhea persists and no local lesion is discoverable to account for it, a thorough dilatation of the cervix is often of service. Many cases are thus relieved for a time, a smaller number are permanently benefited and a few are permanently relieved. The most effective field for this operation is in those cases which are distinctly spasmodic in character. As a last resort, it is right in rare instances in which the patient is not neurotic, and occasionally even in the presence of this complication, to remove the ovaries and tubes, even though they are perfectly normal, in order to stop painful menstruation which is wrecking the patient's health.

Acute Yellow Atrophy of the Liver in a Child.—In view of the rarity of acute yellow atrophy of the liver, and more particularly in children, a case reported by MERKEL (*Münchener medicinische Wochenschrift*, 1894, No. 5, p. 86) would seem worthy of record. The case was that of a boy, six years old, in whom a day or two after the eating of unripe fruit progressive icterus developed, together with anorexia, malaise, emaciation, itching of the skin, coated tongue, and constipation. The temperature was at times slightly elevated above the normal; the pulse was at first infrequent and strong, subsequently, however, increasing in frequency and losing strength. The hepatic dulness early extended below the costal margin, but later became diminished more than half. The spleen, at first not increased in size, subsequently became enlarged. Finally convulsions set in, coma developed, and death ensued. Upon post-mortem exami-

nation a fairly large thymus gland was found persistent and containing several ecchymoses. The pleural cavities contained a small quantity of icteric serous fluid. The pulmonary pleura presented numerous punctiform hemorrhages. The lungs were edematous, and the lower lobe of the left lung contained an infarct as large as a hazelnut. The margins of the leaflets of the mitral valve were nodular and thickened. The peritoneal cavity contained a small quantity of icteric serous fluid. The mesentery and the omentum presented numerous ecchymoses of various size. The liver was soft and greatly diminished in size, the spleen soft and increased in size. On histologic examination the liver was found to be in a condition of acute parenchymatous inflammation. The kidneys were in a state of cloudy swelling.

Traumatic Cyst of the Pancreas.—BROWN (*British Medical Journal*, No. 1716, p. 1106) has reported the case of a lad, seventeen years old, who was struck violently in the abdomen by the buffer of an engine. The abdomen became swollen and was tapped on the left side, seventy ounces of blood-stained fluid being removed. Six weeks later an additional sixty ounces were removed. The patient did well for eight weeks, when he fell from a horizontal bar and immediately became very ill, complaining of severe abdominal pain. The abdomen was greatly distended, tender and dull on percussion. The symptoms becoming more pronounced an incision was made in the median line below the umbilicus, about three pints of blood-stained fluid being evacuated and a drainage-tube inserted. None of the pancreatic ferments could be found in the fluid. The patient improved for a few days, but subsequently a large swelling made its appearance in the upper part of the abdomen, together with a good deal of pain and some vomiting. The abdomen was now opened close to the umbilicus, the stomach and omentum drawn up, and the wall of the cyst exposed; this was punctured with a trocar, and three pints of dark-colored, peculiar-smelling fluid withdrawn. The opening in the cyst was enlarged, the edges attached to the abdominal wall, and a drainage-tube introduced. The fluid contained the pancreatic ferments. Seven weeks later the boy was discharged, well.

Changes in the Blood of Syphilitics.—At a recent meeting of the Royal Society of Physicians of Budapest, JUSTUS (*Wiener medizinische Presse*, 1894, No. 6, p. 224) detailed the results of observations made in the course of a study of the blood of one hundred cases of syphilis. He found that when the course of the disease was uninfluenced by treatment the proportion of hemoglobin declined with the development of the symptoms, to again augment with the recession of the symptoms. When mercurial treatment was instituted the first intramuscular injection was followed by a marked decline in the proportion of hemoglobin, and this in the course of a few days by a compensatory rise. Subsequent injections were likewise followed by a decline, which varied with the intensity of the symptoms present. Finally, however, a point was reached at which the injections no longer caused a decline, but an augmentation, and this went on until the amount of hemoglobin exceeded its level at the beginning of the treatment. Corresponding changes were observed to follow the employment of mercurial inunctions. In both instances the increase in the amount of hemoglobin corresponded with the setting in of improvement. In the discussion that followed, JENDRASSIK ascribed the diminution in hemoglobin following upon the ingestion of mercury to a dilution of the blood and not to a destructive action upon the blood coloring-matter itself.

Five Cases of Pseudo-hypertrophic Paralysis in One Family.—SIMPSON (*Medical Press and Circular*, No. 2854, p. 57) has reported the occurrence of five cases of pseudo-hypertrophic paralysis in a family of ten children. The oldest child was a boy, fifteen years of age, who was well until he was ten, when, in the sequence of a severe attack of measles, he began to present stiffness and awkwardness in rising from his seat. Then a waddling gait developed, the calves were seen to enlarge, the spine to become curved, and the shoulders prominent. He gradually became weaker and was bedridden for two years. He was much emaciated and only slight movement remained in the arms. The legs were contracted and atrophied; the spine was greatly curved anteroposteriorly and laterally. The facial and lingual muscles were enlarged. The reflexes were normal, and trophic and sensory changes were not present. The second child in the family was a girl, thirteen years old, who was healthy; the third, a boy, eleven years old, who was affected with pseudo-hypertrophy; the fourth and fifth, both boys, died in childhood of bronchitis; the sixth, seventh, and eighth, all boys, respectively seven, five, and three years old, were affected with pseudo-hypertrophy; the ninth, a girl of seventeen months, was apparently well; the tenth, a boy, six months old, was well. The family history was good and free from neuroses. There was no consanguinity.

Erythromelalgia.—LEWIN and BENDA (*Deutsche medicinische Wochenschrift*, 1894, Nos. 3, 4, 5, 6) have gathered reports of some forty cases of erythromelalgia from the literature, including three personal cases, and as a result of their study have come to the conclusion that the symptom-complex is not a disease *sui generis*, but sometimes an accompaniment of diverse spinal and cerebral affections, at other times one of the manifold symptoms of a general neurosis, *e.g.*, hysteria, neurasthenia, etc.; in some instances it is to be viewed as a neuralgia or neuritis, in other instances as a reflex manifestation. The conception of erythromelalgia as a vasomotor neurosis is not adequate to explain all of the conditions. The vascular phenomena are of but subordinate importance, as compared with the neuralgic pain. As a matter of fact, they usually appear later than the pain and bear no causal relationship to this. Besides, vascular disturbance may be present, with an entire absence of pain. The clinical picture of erythromelalgia is viewed as the reverse of that presented by Raynaud's disease, which is also looked upon merely as a symptom-complex (sometimes of peripheral origin, dependent upon a neuritis; at other times of central origin, dependent upon disease of the brain or spinal cord), and not a disease *sui generis*. In some of the cases reported an inter-relation apparently existed between both of these conditions.

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THE TEACHING OF PHYSIOLOGY AND HYGIENE IN THE PUBLIC SCHOOLS.

WITHIN a few years laws have been passed in most of the States of the Union requiring the elements of physiology and hygiene, as regular branches of study, to be taught to all the pupils in schools receiving State aid. In Pennsylvania the law is very plain in the statement that the subject *must* be taught to all the pupils in the schools, and a decision issued from the Pennsylvania School Department affirmed that all pupils who were old enough to read should possess a text-book on physiology, from which they should regularly recite so long as they remained pupils in these schools. In the village and rural schools this decision has very generally been carried out until quite recently. In the city schools, and in the State normal schools, colleges, and other institutions of learning receiving State aid, practically no attention has been paid to the letter of this State law.

We desire to call the attention of physicians to the text-books on this subject now in use; to the preparation received by teachers for the work; to the time given to the subject, and, lastly, to the undesirability of physiology in the elementary schools at all.

The Pennsylvania law, making physiology a compulsory subject to be taught in the public schools, states that a portion of each chapter in the text-books shall be devoted to a discussion of the effects of alcohol and tobacco on the human body. The law in other States is very similar to that in Pennsylvania, though in some States *one-fourth* of each book must treat of alcohol and tobacco. Each chapter has one or more topics, as, for example, "The Effect of Alcohol on the Bones," "The Effect of Alcohol on the Skin;" "The Effect of Alcohol on the Muscles," on the connective tissue, cartilage, liver, spleen, lungs, heart, blood-vessels, etc., and then for tobacco there are similar topics for each tissue and organ of the body. This is due to an effort to conform to the spirit and letter of the law.

The present law practically rules out of the schools really excellent books, such as LINCOLN'S *Hygienic Physiology*, by DR. D. J. LINCOLN, the expert on school-hygiene, and late secretary of the Health Department of the American Social Science Association; *Elements of Hygiene*, by DR. EZRA HUNT, secretary of State Board of Health of New Jersey; the monographs of HUXLEY and YOUMANS, of WALKER, HUTCHINSON, and others written by educated physicians. Indeed, there is hardly a first-class elementary text-book on physiology and hygiene which to-day fully conforms to the Pennsylvania law.

A second objection to the books is that they are often very loosely and inaccurately written. The more popular the book, the more inaccurate is the rule. A few of these more striking errors are as follows: "Chloral hydrate taken in proper quantities is entirely safe, and is exceedingly pleasant in its effects." "Albumin, when once deposited by the blood, cannot be dissolved and washed away again." Other errors have been recently alluded to by DR. G. G. GROFF, in *Science*:

"One of the best of these books several times makes the positive assertion that tobacco produces carcinoma in its users. Another volume asserts that consumption may be caused by putting on spring clothing too early in the season. One also reads that cider-drinkers are peculiarly crabbed and cross; that tobacco makes old men ill-natured; that sour milk is unwholesome, cheese indigestible, *pork a meat not fit to eat*, and that bile has the properties of baking-soda. Here is a fish-story told in the words of a highly-commended book: 'The Esquimaux who live in Greenland drink one or two quarts of oil, and eat several pounds of candles every day.' But see how a story will 'grow' even in a scientific text-book. In the next number of the 'series,' written by the same author, and from the same reliable notes, doubtless, we read: 'An Esquimaux consumes about twenty pounds of blubber fat daily, besides drinking several quarts of

train oil.' What it will be in the next volume, who can tell?

"As to the style and accuracy of these 'scientific' treatises, the following may be taken as samples: 'The eyeball is a bag (!) almost round, thick, and dull everywhere but in front, where it has a transparent covering called the cornea, meaning a horn. This is fitted into the eye just as a watch-crystal is fitted into a watch. The back chamber' (of the eye) 'also holds a jelly-like fluid, called the 'glassy humor,' which allows the iris-curtain to float and move freely."

In another book it is affirmed that cattle exhaust the lime from old pastures, and become diseased, unless the farmer limes the field—a most silly assertion.

It is of such matter that the more popular of these books is composed.

A third objection to the books is that, in the main, they are treatises on anatomy, with some physiology, and a very little hygiene thrown in. Now, children should be instructed in the elements of personal hygiene, but of anatomy and physiology the less they know the better, because the knowledge will be so imperfect that they will be better off without it. A well-known series of books, for children from eight to twelve years of age, is more difficult to comprehend than would be the anatomies of GRAY and LEIDY. They are simply compends of anatomy, with all the scientific terms retained; things utterly useless to children of the age named.

A fourth objection is that these books claim to give reliable statements in reference to alcohol and tobacco. On this point we again quote from the article in *Science:*

"Many of them contain a statement, printed in a prominent manner in the first portion of the book, that they contain '*a full and fair treatment of the nature and effects of alcoholic drinks and other narcotics in connection with relative physiology and hygiene.*' When the books are examined, however, the 'full and fair treatment' dwindles into statements, true and imaginary, of the evil effects of alcohol on the body. There is no effort at all made to discuss the different effects of large and small doses, of the effects on a full and on an empty stomach; of individual idiosyncrasies, and not a word of the beneficial effects of alcohol and narcotics when properly used. There can be no doubt but this unfair, unscientific, and untruthful manner of presenting this subject is having an effect, exactly the reverse to that which is intended. Children will soon find out that they have been deceived, and the result will be worse than if nothing had been said at all on the subject."

The law requires the effects of narcotics and stimulants on the human body to be taught; it does not require imaginary effects; it does not require one-sided statements; it does not require untruths to be taught. They are a poor sort of temperance-lessons and have the faults of the average temperance-lectures, *i. e.*, exaggeration. This is illustrated by the following passage taken from a popular book:

"It happened that about this time one of these chemists succeeded in distilling some alcohol from a fermented liquid. He tasted it, and at once noticed its power to excite the body and make him forget care and trouble. He felt young again, and was now sure he was the possessor of the long-sought-for 'elixir.' He advised his friends to drink freely of the newly-discovered liquid, telling them it would bring back to them their youth and strength. But, as might be expected, after a wild career of drunkenness he died in a drunken stupor."

Who was this discoverer, and where is to be found the account of his life?

In most of the States it has been apparent that legislators have thought that physiology could be taught without any preparation on the part of teachers, for the laws have been passed, and teachers are required *at once* to teach the subject. No time has been given for preparation. Up to the passage of the laws teachers had not been prepared in this subject, and even to-day probably not more than three or four of the normal schools in Pennsylvania are attempting to give any adequate preparation to their students in this branch. What is true of normal schools is also true of high schools and colleges. One term of thirteen weeks is the usual time allotted to the elements of anatomy, physiology, and hygiene. Any physician well knows how much can be acquired in that time, certainly not enough to teach the subject. It is also to be borne in mind that teachers have had no training in chemistry, and yet, in large part, physiology is a department of chemistry. How can any person ignorant of chemistry teach the effects of alcohol and tobacco on the body? It is sheerest nonsense to attempt it. Even in our normal schools physiology is taught without any knowledge of chemistry. The least possible smattering of the subject seems to be thought all that is necessary on this subject on the part of teachers and superintendents. We were recently asked if we did not think a teacher qualified to instruct in this branch after mastering a certain very elementary primer. The question came from the superintendent of one of the leading cities in Pennsylvania. But this position is not to be wondered at when we recall the position occupied by laymen in reference to medical subjects in general. Teachers are not at present qualified to teach this branch, in the ordinary courses in colleges or normal schools. Special

preparation is required, or the subject should not be taught.

The facts in many of the elementary text-books could all be mastered by a bright child in two or three weeks. For these primers contain only about 100 to 150 pages of large type, heavily leaded. In rural, ungraded schools, from this primer, by an untrained teacher, recitations are conducted every day in the week, and every week in the school year. And for what? Certainly not to instruct the child and to make a better citizen, but rather to satisfy the whims of certain would-be reformers. That this is not exaggeration, the case of a lady teacher may be mentioned, who recently told us that for *three years* she had daily conducted recitations with the same primer and the same class of boys and girls. And this nonsense, as decided by the State Department of Schools for Pennsylvania, must continue through the grammar school and high school, or so long as the children remain in school. The children are early, and justly, disgusted with the subject.

To the question: "Should physiology be taught at all in the public schools?" we answer, positively, no, except in the high school, and then only if a competent teacher is provided. The children of the public schools are unable, without a knowledge of chemistry, to understand the teachings of physiology; nor is it desirable that they should be informed on such subjects. The ugly pictures of the interior of the human body, the skeleton, and the skinned men, showing off their distorted muscles, are sights entirely unsuited to the children in our public schools. They need none of these things, and are, indeed, injured by them.

What should be taught is *the elements of hygiene*, divested of all anatomy and physiology. Very small children can be taught how to care for their eyes, to keep the feet dry, how and what to eat, to avoid dirty and foul water; how to care for the body; the importance of cleanliness, of sleep, and all the rest—in a word the whole subject of personal hygiene can be taught to young children and comprehended by them without the least knowledge of anatomy and physiology.

The reform to be wrought is to secure text-books on elementary hygiene, and then to labor that they displace the books now in the hands of the children.

Since the foregoing was written it is reported that the present Superintendent of Public Instruction for Pennsylvania has decided that all the pupils in the public schools must study physiology.

THE PROPOSED NATIONAL BUREAU OF PUBLIC HEALTH.

THE National Quarantine Committee of the New York Academy of Medicine, after a careful study of the subject and much correspondence, has materially modified the bill for a national health and quarantine system which it presented to Congress last winter, and has embodied its conclusions in "A Bill to Establish a Bureau of Public Health within the Department of the Interior of the United States," which it will now urge Congress to enact into a law.

The essential features of this bill are in many respects the same as those advocated by THE MEDICAL NEWS in the number for December 31, 1892, p. 739. It separates the executive work of maritime quarantine from the legislative and scientific work to be done, leaving the former to the Marine-Hospital Service, and designating the latter as the special business of the National Health Bureau, which is placed under the Department of the Interior, and not under the Treasury Department. This separation appears to us to be very desirable—a single head is probably best for executive purposes—but the rules should not be made by the person who is to enforce them.

The proposed Bureau is to consist of a Commissioner of Public Health and an Advisory Council. The Commissioner is to be an expert sanitarian, appointed by the President of the United States, with the approval of the Senate, and is to receive a salary of $6000 per annum. The Advisory Council is to consist of one member from each State, to be appointed by the Governor of the State, and to be a physician of good repute and standing. The members of the Council receive no pay, except their travelling expenses and board while actually engaged in the performance of their duties, but it is probable that for all States having a State Board of Health, the salaried officer of that Board would be the member of the National Advisory Council.

The original suggestion of THE MEDICAL NEWS was that the members of the Advisory Council should be appointed by the President of the United States, and should include, in addition to physicians and sanitarians, some representatives of the commercial interests of the country. It is probable, however, that a council composed of persons appointed by the several Governors of the States would be more truly a representative body, each member of which would have a certain amount of

influence in his own State, than would be the case if all the members were appointed by the President —but the limitation of the choice of each Governor to physicians of good repute seems a necessity in this case. It might, perhaps, also be well to require that the selection be made from members of the State Board of Health for those States which have such a Board, but this is not an important point.

The duties of the proposed Bureau of Public Health are stated to be "to collect and diffuse information upon matters affecting the public health, including statistics of sickness and mortality in the several States; the investigation by experimental and other methods of the causes and means of prevention of disease; the collection of information with regard to the prevalence of contagious and epidemic diseases, both in this and other countries; the publication of the information thus obtained in a weekly bulletin; the preparation of rules and regulations for securing the best sanitary condition of vessels from foreign ports, and for the prevention of the introduction of infectious diseases into the United States, and of their spread from one State into another, which rules, when approved by the President of the United States, shall have the force of laws; the ascertaining by a suitable system of inspection that these rules and regulations are properly carried out and enforced; the advising and informing the several departments of the government and executive and health departments of the several States on such questions as may be submitted by them to it, or whenever, in the opinion of the Bureau, such advice and information may tend to the preservation and improvement of the public health, and in general to be the agent of the general government in taking such action as will most effectually protect and promote the health of the people of the United States."

There can be no doubt in the mind of any intelligent man that the United States ought to have a Bureau of Public Health, charged with the duties indicated, and it would certainly save the nation many times its cost.

It is possible that opposition to the bill may come from the Marine-Hospital Service of the Treasury Department, at whose hands some of the provisions here contemplated have in the past been carried out. This bill provides that the Treasury Department, which means the Marine-Hospital Service, shall have charge of the carrying out of the rules and regulations pertaining to maritime quarantine made by Congress or framed by the National Bureau of Health and approved by the President. No doubt it will be objected to this, that one department should not make rules to be carried out by another, but as a matter of fact this is frequently done, and must be done—for no department of the Government is an absolutely independent autocratic power. The Post Office Department must enforce rules made by the Customs Bureau of the Treasury, the Navy must do the same, and must also at times act under the direction of the State Department. Perhaps the newest departure in the bill is the provision for inspecting the work of the quarantine officials of one department by officers of another department, but this is not without precedent, and the advantages of having such an independent inspection are manifest, while there is no more reason why it should not be done than why a State or municipal quarantine establishment should not be inspected by officers of the Marine-Hospital Service. We see nothing in the bill which is actually objectionable, while it contains much that is very desirable, and it is in full accord with the views and wishes of the physicians and sanitarians of the country. There are some, it is true, who would prefer to have a separate and independent Department of Public Health, with a Cabinet officer at its head, but it is perhaps doubtful if the time has yet come for the establishment of a department of this kind, and we believe that the New York committee has acted wisely in proposing to put the matter into the hands of a representative bureau in the Department of the Interior, which is the department to which the great majority of public health questions in this country naturally belong.

EDITORIAL COMMENTS.

Legislation for the Prevention of Blindness is needed in every State of the Union; it is simply inhuman as well as financially expensive that such laws do not to-day exist. At the last meeting of the American Medical Society a committee of the Ophthalmological Section was appointed to draft the form of such a law and put in action the machinery to secure its passage by the Legislatures of all the States. The following is the form agreed upon by the committee:

The people of the State of —— represented in Senate and Assembly, do enact as follows:

SECTION 1. Should one or both eyes of an infant become inflamed, or swollen, or reddened at any time within two weeks after its birth, it shall be the duty of the midwife or nurse having charge of such infant, to report in writing, within six hours, to the health-officer

or some legally qualified practitioner of the city, town, or district in which the parents of the infant reside, the fact that such inflammation, or swelling, or redness of the eyes exists.

SEC. 2. Any failure to comply with the provisions of this act shall be punished by a fine not to exceed two hundred dollars, or imprisonment not to exceed six months, or both.

SEC. 3. This act shall take effect on the —— day of ——, eighteen hundred and ninety ——.

Physicians need no argument or explanation as to the pressing need for such a law. The difficulty lies in getting legislators to devote an instant's time to the matter. In one State a correspondent averred that it would be impossible to secure the passage of such a law because there is, of course, no "blood-money" to pay the lobbyists and the "other necessary expenses."

Dr. Howe, of Buffalo, N. Y. (the chairman of the committee referred to), who has devoted much attention to this subject, calculates that the cost to the United States for support of the blind and for loss of their wages is, at a low estimate, more than sixteen million dollars a year.

In our country there are over 50,000 blind, a very large proportion of whom, as we all know, are unnecessarily blind. It only needs the passage and execution of a law such as that proposed, to at once reduce by large fractions the suffering and expense entailed by what should be legally criminal neglect and ignorance as regards the almost certain prophylaxis of this disease.

Already four States have such a law—New York, Maine, Rhode Island, and Minnesota—and Ohio is about joining the roll of honor.

In Pennsylvania, and in all other States except these four, the disgrace goes on, and year by year our neglect and indifference permit the multiplication of the blind as a result of ophthalmia neonatorum. Every medical (local or State) society should pass resolutions as to the duty devolving upon the law-makers, and see to it that a copy of the resolution and of the desired law is sent to every member of the Legislature. In England, owing to public laws and precautions, the number of blind has fallen from 1021 to the million, in 1851, to 809 per million, in 1891, with a sharp decline still in progress.

The Necessity of a Mydriatic in Prescribing Glasses is a truism denied with considerable persistence by some oculists. If the premises of those who advocate the "uselessness of the mydriatic" were admitted or admissible, then their conclusion would necessarily follow, and both the physician and the patient would, indeed, be spared considerable bother and labor. But the premises so cooly taken as axiomatic are denied by those who stick to the mydriatic.

In the first place atropin is not the only mydriatic that can be used in the majority of cases with satisfaction. The mydriasis from the use of homatropin combined with cocain passes off in about a day, and decidedly lessens the loss of time occasioned by atropin. The trouble to the physician, a profoundly but subtly powerful argument, we suspect, seems a very bad one.

Moreover, the perfect assurance that the ophthalmometer infallibly measures the astigmatism seems to careful men without a necessary basis of fact.

That a mydriatic is not necessary in persons beyond forty years of age is another axiom that is hardly ever, one might say never, true.

That there is any considerable proportion of cases of simple myopia or simple hyperopia, without complicating "astigmatism sufficient to be corrected," is another fallacy, as is also the assertion that the hyperopic eye is a normal eye, "causing no inconvenience until presbyopia is reached," and requiring no attention on the part of the oculist.

Both the theory and the practice of medicine, as well as the theory and the practice of ploughing or shoemaking, depend upon the correct perception and the truthful statement of facts; and as to the facts mentioned, as well as many other related facts, there seem to be sad differences of opinion among ophthalmologists. "The most exact of the specialties of medicine" seems to be in process of speedily becoming one of the most inexact. Either this, or, in order to spare the oculist trouble, there is a distinct reversionary or atavistic tendency toward primitive unscientific practices and types of mind. Which is it?

It should also be noted that those who so zealously advocate the "uselessness of the mydriatic," the divinity of the ophthalmometer, and the commercializing of medicine, are encouraging every quack optician in his delusion that all refraction-work belongs to him by right and alone. We shall soon see every "specialist in lenses for the eye," every jeweler and spectacle-peddler quoting physicians to prove his impertinence, and outfitted with ophthalmometers and phorometers galore.

The Children's Aid Society.—One cannot read the annual report of the Children's Aid Society of Pennsylvania without a profound sense of admiration for the noble work in which this useful Society is successfully engaged. To rescue parentless, deserted, and delinquent children from lives of degradation and to place them in the way of leading useful careers, is surely a work deserving of the warmest sympathy and encouragement and the most liberal support. The Society has doubly felt the results of the universal depression in business, in that its income has been curtailed, while the demands upon its resources have been increased, so that it began the year with a deficit. As is generally known, the work of the Society consists in placing uncared-for, or improperly cared-for, children in the homes of respectable families, at a small outlay for board, meanwhile maintaining a general supervision of the child. Six hundred and eleven (611) children were thus cared for during the last year. In addition, the Society offers its aid to mothers, married or single, for the purpose of securing suitable employment in order to provide for themselves and their offspring. The work is greatly embarrassed for want of funds, and an earnest appeal is made to those able and willing to contribute generously to a most worthy and a well-administered cause. Subscriptions may be sent to the Treasurer, Mr. Charles E. Peterson, at the office of the Society, 127 South Twelfth Street.

To the Trustees of the American Medical Association.—We respectfully call the attention of the Trustees of the American Medical Association to the letter signed "Medicus," published in the *Journal of the American Medical Association* for March 24, 1894, p. 438, and beg to inquire whether the publication of that "dignified and professional" epistle has their approval.

REVIEW.

ESSENTIALS OF PRACTICE OF MEDICINE: ARRANGED IN THE FORM OF QUESTIONS AND ANSWERS. Prepared especially for Students of Medicine. By HENRY MORRIS, M.D. With a very complete APPENDIX ON THE EXAMINATION OF THE URINE. By LAWRENCE WOLFF, M.D. Third edition, revised and enlarged by some three hundred essential Formulæ selected from the Writings of the most eminent Authorities of the Medical Profession, collected and arranged by WILLIAM M. POWELL, M.D. 8vo, pp. 374, 48, 66. Philadelphia: W. B. Saunders, 1894.

WE have on more occasions than one questioned the utility of even the best of the books of the class of that under review. What then remains to be said concerning such as may be characterized by glaring omissions and inadequacies! They are all but too likely to encourage superficial methods of study and perhaps deceive the student into a false notion of his ability.

In the book before us we find on cursory examination that the following subjects have received no consideration: Weil's disease, glanders, anthrax, actinomycosis, hydatid disease, trichiniasis, the intestinal parasites in general, arterio-capillary fibrosis, symmetrical gangrene, hysteria, tetanus, hydrophobia, akromegalia, myxedema, cretinism, syringomyelia, acute ascending paralysis, pseudo-hypertrophic paralysis, postero-lateral sclerosis, analgesic panaris, myotonia congenita. The distinction between infectious and contagious diseases is attempted, but not made. No informed persons would say to-day that an infectious disease is "not capable of being communicated from one individual to another (*e. g.*, influenza, malaria, tubercle)" (p. 19). In the consideration of the pulse (p. 21) the distinction between rapidity and frequency does not appear to be appreciated. In the section on enteric fever we look in vain for any intimation that microörganisms may play any part in the etiology. Relapsing fever is said to be dependent upon the presence of the spirocheta of Ehrenberg; although by others the organism is quite always associated with the name of Obermeier. Malaria is described (p. 47) as "a poison generated by heat and moisture . . . . most likely due to microscopic germs of either vegetable (bacillus malariæ) or animal (plasmodium malariæ) origin. The latter view has been steadily gaining ground of late." This ultra-conservatism might have been justifiable six or eight years ago, but is scarcely warrantable to-day. Erysipelas (p. 81) and diphtheria (p. 85) are each said to be due to "a special poison," while the streptococcus and the bacillus respectively seem to be entirely ignored. In connection with dysentery we fail to find any reference to the ameba coli as an etiologic factor. The bare possibility of membranous croup being of diphtheric origin receives no consideration. Pathology seems to be made easy, as in the description of a tubercle (p. 254), which "under the microscope is seen to consist of a giant-cell which contains the bacillus . . ." In the desire to be abreast of the time in connection with the etiology of tuberculosis, the fallacious statement is made that the bacillus tuberculosis is present in the breath of affected persons. The occupation-neuroses are all included in the description of writers' cramp, which strangely is stated to be "also seen in telegraph and type-writer operators" (p. 345). We think these few random references must demonstrate that any good of which this book might be capable is more than neutralized by the incalculable injury that it can accomplish.

CORRESPONDENCE.

LAMINECTOMY.

To the Editor of THE MEDICAL NEWS,

SIR: In reading an article by Dr. John B. Roberts on "Laminectomy for Spinal Fracture," published in THE MEDICAL NEWS of March 10th, I was reminded of two cases that occurred in my practice, in which this operation was done early, but with negative results. In most of the cases of injuries of this nature there seems to be a lesion of the cord and its envelops that takes place immediately and occasions permanent results. Therefore, even if an operation be performed at once, the only hope is that there may be only pressure upon the cord, and not any disturbance in its molecules. I believe, however, that if the injury has been severe enough to paralyze, its effects will be permanent and no operation will be of any avail. I append a brief history of the cases.

In August, Miss E. fell backward out of a wagon, striking upon her neck and shoulders. She complained of immediate pain in the back, with complete loss of power in the lower extremities. Examination revealed an irregularity in the line of the dorsal vertebræ. Forced extension was employed on the following day in an attempt to reduce the displacement, but without success. A day or two later the operation of laminectomy was performed at the point of displacement, and some small fragments of bone that were broken and somewhat depressed were removed. There was no further depression, as a probe was passed up and down from the point opened, proving all to be free. The patient bore the operation well, and the wound healed by first intention. There was no change in the paralysis, however, nor did any occur during her lifetime. As time went on, cystitis, large bedsores, and other usual conditions occurred, and the patient finally succumbed.

The second case was that of a man who fell into a pit some ten feet deep, and was found a few hours later with complete paralysis of the legs. A line of irregularity in the spinal column was found in the lower dorsal region. An operation was speedily performed, revealing some loose bone, which was removed. The cord was quite reddened. There was no abatement in any of the symptoms or in the general condition, and the man died in a few days from exhaustion. At the post-mortem examination the cord was found flattened, and its anterior surface changed in appearance.

In a third case, in which a heavy body fell across the back of a young man, with resulting complete paraplegia, no operation was permitted, and the case went on in the same way as the first here related, finally terminating in death by exhaustion.

While I am, with Dr. Roberts, a believer in operations, still in view of these cases I cannot see that we can offer encouragement under such conditions, even if the

operation be done early, much less if done later. In neither of my cases did the injury to the cord seem severe enough to cause such complete paralysis, showing evidently that the cord is so constituted that but slight disturbance or pressure suffices to annul its function.

Respectfully, CLINTON B. HERRICK.

TROY, N. Y.

ACETANILID IN SURGICAL PRACTICE.

To the Editor of THE MEDICAL NEWS,

SIR: I desire to add the experience of the accident ward of the Cincinnati Hospital to what you have already published concerning the use of acetanilid as a surgical dressing. Since its introduction I have used the agent in dressing fifty-one scalp-wounds and two hundred and seven other wounds and solutions of continuity. These latter include stab-wounds and pistol-wounds, amputations of fingers, lacerated wounds of the hands from falling weights and machinery, syphilitic and other ulcers, burns and incised abscesses. In a fresh wound, first thoroughly flushed with 1 to 40 carbolic acid solution, then dusted with acetanilid, and protected from desiccation by the use of protective *over* the layers of plain gauze that lie next the wound, I have never seen a drop of pus form. Foul wounds seem to me to take on a healthy action with increased promptitude, and syphilitic ulcers heal rapidly. I feel confident that I have prevented suppuration in oil-besmeared and grimy lacerated fingers, and thus avoided what I would formerly have considered inevitably necessary amputations. Not infrequently, however, when granulations form over an extensive surface, I have had to discontinue the use of acetanilid on account of the burning pain occasioned. This is slight and of short duration at first, but increases in severity and duration with subsequent dressings. The advantages gained in the early part of the treatment, however, justify the use of the drug as long as the patient can stand it. I have never seen any constitutional effects from its use. Apparently we have made a valuable acquisition in acetanilid, and with me it has superseded the use of iodoform altogether. With my present experience I would say that it is an efficient antiseptic, stimulant, non-irritating, non-toxic, odorless, clean, easy to wash from the surface of a wound and the surrounding skin, desiccant, and to a certain extent a hemostatic. In those cases in which it begins to produce pain decided advantages have already accrued from its use. Respectfully,

CHARLES H. CASTLE,
Resident Physician.

CINCINNATI, OHIO.

NEWS ITEMS.

The Association of Military Surgeons of the United States will hold its fourth annual meeting at Washington, D. C., May 1, 2, and 3, 1894. The following provisional program has been arranged: President's Address—"Abdominal Surgery on the Battle-field," by Col. Nicholas Senn, Surgeon-General Illinois N. G., Chicago, Ills. "History," by Col. Charles H. Alden, Assistant Surgeon-General U. S. A., Washington, D. C. "Litter," by Major Valery Havard, Surgeon U. S. A., Fort D. A. Russell, Wyo. "Travois," by Major John Van R. Hoff, Surgeon U. S. A., Governor's Island, N. Y. "Railway," by Col. Louis W. Read, Surgeon-General N. G. Pa., Norristown, Pa. "On Board Ship," by Albert L. Gihon, Medical Director U. S. Navy, Washington, D. C. "Ambulance," by First Lieut. Myles Standish, Surgeon Mass. V. M., Boston, Mass. "Notes on the Introduction of Tent-field Hospitals in War, showing the Advantages of Treating Military Invalids under Canvas on the Battle-field instead of Buildings Improvised for Hospitals," by Col. B. J. D. Irwin, Assistant Surgeon-General U. S. A., Chicago, Ills. "The Medical Officer at the Summer Encampments," by Lieut.-Col. Charles R. Greenleaf, Deputy Surgeon-General U. S. A., San Francisco, Cal. "Easy Methods of Carrying Out the Principles of Aseptic Surgery," by Col. Robert Reyburn, late Surgeon and Bvt. Lieut.-Col. U. S. Vols., Washington, D. C. "Equipment and Instruction of Sanitary Soldiers," by Capt. Charles F. Mason, Assistant Surgeon U. S. A., Fort Snelling, Minn. "A Field Kitchen Wagon, for Cooking Food and Sterilizing Dressings at Dressing Stations and on the March," by Capt. H. O. Perley, Assistant Surgeon U. S. A., Plattsburg Barracks, N. Y. "The Personal Equipment of the Sanitary Soldier," by First Lieut. George D. DeShon, Assistant Surgeon U. S. A., Fort D. A. Russell, Wyo. "The Action of Rattlesnake Venom upon the Bactericidal Power of the Blood-serum," by Capt. Charles B. Ewing, Assistant Surgeon U. S. A., Fort McHenry, Md. "The Relation of the National Guard Surgeon to the Medical Profession and to the Community," by Capt. T. C. Clark, Assistant Surgeon N. G. Minn., Stillwater, Minn. "Saber Wounds," by Col. R. E. Giffen, Surgeon-General N. G. Neb., Lincoln, Neb. "The Special Training of the Medical Officer, with Brief Notes of the Courses of Instruction at the Army Schools Abroad and at Home," by Col. Charles H. Alden, Assistant Surgeon-General U. S. A., Washington, D. C. "A New Sanitary Appliance in the First Line of Battle-field Assistance," by Major John Van R. Hoff, Surgeon U. S. A., Governor's Island, N. Y. "Some Notes on the Late Civil War," by Col. Richard F. Michel, Surgeon-General Ala. State Troops, Montgomery, Ala. "Destructive Effects of the Krag-Jörgensen Rifle Projectile at the Actual Ranges," by Capt. Louis A. LaGarde, Assistant Surgeon U. S. A., Denver, Col. "Camp Hospitals," by Major Lawrence C. Carr, Surgeon N. G. Ohio, Cincinnati, Ohio. "Progress of Medico-military Science in the National Guard of New Jersey," by Brig.-General John D. McGill, Surgeon-General N. G. of N. J., Jersey City, N. J. "The Remote Effects of Gunshot Wounds of the Extremities," by Lieut.-Col. C. M. Woodward, ex-Surgeon-General Mich. State Troops, Tecumseh, Mich. "Notes on the Transportation of Sick and Wounded," by Capt. J. D. Glennan, Assistant Surgeon U. S. A., Fort Sill, Oklahoma Ter. "Case of Gunshot Wound of Liver, with Remarks on Liver Wounds Antiseptically Treated," by Capt. G. E. Bushnell, Assistant Surgeon U. S. A., Fort McKinney, Wyo. "The Treatment of Gonorrhea in Military Practice," by Major G. Frank Lydston, Surgeon Ills. N. G., State and Madison Sts., Chicago, Ills. "Description of a New Litter," by Capt. Francis J. Ives, Assistant Surgeon U. S. A., Fort Sheridan, Ills.

Dr. John H. Rauch, the distinguished sanitarian and advocate of higher medical education, died on March 24th, at the age of sixty-five years. He served faithfully during the Civil War, and at one time occupied a chair in Rush Medical College and also in the College of Pharmacy of Chicago. He organized the first Board of Health of Chicago, and was at another time Superintendent of Public Health in that city. He was also one of the founders of the Illinois State Board of Health, of which he was at different times President and Secretary respectively.

George Albert Lücke, Professor of Surgery in the University of Strassburg, died suddenly on February 20th, at the age of sixty-five years. He contributed generously to medical literature. He was one of the founders of the *Deutsche Zeitschrift für Chirurgie*, and in 1879, in conjunction with Billroth, began the publication of a mammoth work on *Deutsche Chirurgie*, which was expected to appear in sixty-six parts. He was, perhaps, best known for his writings upon new-growths.

The British Medical Association will hold its sixty-second annual meeting at Bristol, July 31, August 1, 2, and 3, 1894. Dr. E. Long will be the presiding officer. An "Address in Medicine" will be delivered by T. Grainger Stewart, of Edinburgh; an "Address in Surgery," by J. Greig Smith, and an "Address in Public Medicine," by Sir Charles Cameron.

Dr. Ezekiel Hartzell, of Carlisle, died at Fayetteville, on March 24th, at the age of seventy-five years. He had been engaged in the practice of medicine for forty-five years. He was the father of Dr. Milton B. Hartzell, of this city, and of Dr. Charles Hartzell, of Fayetteville.

Eleventh International Medical Congress.—The official proceedings of the Congress will be published daily by the new Italian journal, *Il Policlinico*, copies of which will be presented to foreign representatives of exchanging journals.

The Shadow-test.—A course of lectures, demonstrations, and clinical work on Skiascopy, or the Shadow-test, will be given at the Philadelphia Polyclinic during the week commencing April 9th.

Dr. Julius Uffelmann, Professor of Hygiene in the University of Rostock, died February 17th, at the age of fifty-eight years. He made a number of valuable contributions to medical literature.

The German-American Medical Monthly is the name of a new publication emanating from St. Louis, and edited by Dr. Gustav Blech, with the assistance of Dr. Paul Baer.

Wm. P. Northrup has recently been made Adjunct Professor of Diseases of Children in the Bellevue Hospital Medical College of New York.

Dr. Francis Flint Forsyth died at Providence, R. I., on March 11th, at the age of seventy years.

BOOKS AND PAMPHLETS RECEIVED.

Mensuration in the Physical Diagnosis of Phthisis. By George A. Evans, M.D. Reprinted from the Brooklyn Medical Journal, 1893.

On the Microbic Origin of Chorea. Report of a Case, with Autopsy. By Charles L. Dana, A.M., M.D. Reprinted from the American Journal of the Medical Sciences, 1894.

Autobiographical Sketches and Personal Recollections. By George T. Angell. Pamphlet. Published by the "American Humane Education Society," Boston.

Saunders' Question Compends, Nos. 8 and 9. Essentials of Practice of Medicine. Arranged in the Form of Questions and Answers. Prepared Especially for Students of Medicine. By Henry Morris, M.D. With a very Complete Appendix on the Examination of Urine, by Lawrence Wolff, M.D. Third edition. Revised and enlarged by some three hundred essential Formulæ, selected from the writings of the most eminent Authorities of the Medical Profession, by William M. Powell, M.D. Philadelphia: W. B. Saunders, 1894.

Glycosuria as an Additional Symptom indicating the Neurotic Origin of Dermatitis Herpetiformis (Duhring). By James McF. Winfield, M.D. Reprinted from the Journal of Cutaneous and Genito-urinary Diseases, 1893.

Open Incision Tenotomy, with Report of a Case in which the Tendon was Sutured by the Anderson Method. By James F. E. Colgan, A.M., M.D. Reprinted from the Therapeutic Gazette, 1893.

Pharyngites Hémorrhagiques. Par le Dr. Marcel Natier. Extrait de la Revue Internationale de Rhinologie, Otologie, et Laryngologie. Paris, 1893.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland, Ninety-fifth Annual Session, held at Baltimore, Md., April, 1893. Also Semi-annual Session, held at Easton, Md., November, 1892. Baltimore: Griffin, Curley & Co., 1893.

Infleshed Toe-nail: its Radical Relief. By Benjamin E. Cotting, M.D. Boston: David Clapp & Son, 1893.

Quantitative Testing for Sugar in the Urine. By Charles W. Purdy, M.D. Pamphlet.

Movements of the Upper Eyelid associated with Lateral Movements of the Eyeball. By Harry Friedenwald, M.D. Reprinted from the Archives of Ophthalmology, 1893.

Dakota for Health-seekers. A Climatic Sketch. By D. W. Robinson, M.D. Pamphlet. Pierre: Daily Capital Co., 1893.

A New Pathology and Treatment of Nervous Catarrh. By Seth Scott Bishop, M.D. Reprinted from the Journal of the American Medical Association, 1893,

Description of a Newly Devised Sanitary Building. By W. Van der Heyden, Yokohama, Japan. Printed at the Japan Herald Office, 1893.

Horsehair in Minor Surgery. By C. O. Thompson, Ph.G., M.D. Reprinted from the Boston Medical and Surgical Journal, 1893.

The Use of Nitroglycerin in Arterio-sclerosis. By Thomas G. Ashton, M.D. Reprinted from the Therapeutic Gazette, 1893.

How shall we make Our Homes Healthy? By Benjamin J. Portugaloff, M.D. Translated from the Russian. Pamphlet. Chicago: World's Columbian Exposition, 1893.

An Economical System of Sanitary Drainage for City and Country. By M. Nadiein, Captain of the Russian Army. Pamphlet. Chicago: World's Columbian Exposition, 1893.

The Nerve Theory of Menstruation. By Christopher Martin, M.B. Edin., F.R.C.S. Eng. Pamphlet. London: John Bale & Sons, 1893.

Pulmonary Tuberculosis, with Special Reference to its Prophylaxis, Hygienic and Climatic Treatment. By Edward O. Otis, M.D. Reprinted from the Transactions of the New Hampshare Medical Society, 1893.

Syringomyelia. By Wharton Sinkler, M.D. Reprinted from International Clinics, vol. iii, third series.

Zur Therapie der harnsaueren Diathese. Von Dr. M. Mendelsohn, in Berlin. Verlag Von J. F. Bergmann, in Wiesbaden.